Ἀνθρωπολογία

OR, A

Philosophic Discourse

CONCERNING

MAN.

BEING THE

ANATOMY

Both of his *SOUL* and *BODY*.

WHEREIN

The *Nature*, *Origin*, *Union*, *Immateriality*, *Immortality*, *Extension*, and *Faculties* of the one,

AND THE

Parts, *Humours*, *Temperaments*, *Complexions*, *Functions*, *Sexes*, and *Ages*, respecting the other, are concisely delineated.

By *S. H.* Student in *Physic.*

——— *Quod Medicorum est.*
Pertractent Medici, tractent fabrilia fabri.

London, Printed for *Stephen Foster*, at the *Sun* and *Bible* on *London-Bridge*. 1680.

A
Philosophic Discourse
CONCERNING
MAN.

BIBLIOTHECA BODLEIANA

TO

Sir JOHN HARTOP Baronet.

SIR,

THis little, and unpoliſh'd Tract (by reaſon of its Authors penſive Thoughts, concerning its Entertainment among the Critic Cenſurists of this Carping Age, and his careful Solicitude, to whoſe Patronage he dare preſume to commit it) is juſt like a ſmall

Vessel *tossed up and down in the midst of a turbulent* Ocean, *and buffered by the swelling* Waves *of an unruly* Element, *having its* Sails *lacerated by the boisterous* Assaults *of an unmerciful* Wind, *and not knowing to what* Port *or* Haven *it had best betake it self: For when I seriously reflect on my own* Unworthiness *and* Insufficiency, *for a* Work *of this* Nature, *I am ashamed to think of exposing the* Weaknesses *and* Imperfections *of my* Juvenile Labours *to* Public View, *much more when I contemplate on the* Dignity *and* Grandure *of your* Person, *the multitude of your* Natural *and* Acquired Accomplishments, *the* Profound-

nesse

neſs *of your* Judgment, *and the* Accuracy *of your* Diſcerning Faculty, *am I* Aſtoniſht, *and even ſtand* Agaſt *at the thoughts of appearing at the open* Bar *before ſo* Diſcerning *a* Judge. *But yet on the other ſide, when I conſider your* Candour *and* Clemency, *the* Natural Reſult *and* Product *of ſuch a* Genuine Diſpoſition, *as inclines you to* Pardon *and* Overlook *the common* Frailties *of* Mankind; *the* Weight *and* Argument *in this laſt* Conſideration, *to publiſh it, præponderates that of the two former to keep it dormant: ſo that now having reſolved to ſtrike* Anchor *at the ſafe* Harbour *of your* Name *here prefixed, my fluctu-*

ating Thoughts *are already reduced to* Calmness *and* Serenity *of* Mind; *and I value not the inconsiderable* Puffs *and* Blasts *of a thousand* Censurists; *but can* Laugh *at all their* Taunts *and* Jeers, *and* Calumnies. *Or shall I compare it to a* Ship *embarked with* Goods (tho very ordinary) *intended for a long* Voyage, *and fore-seeing a multitude of* Storms *and* Tempests, *which it must unavoidably venter thro, yet having a* Skilful *and* Successful Pilot *to steer its* Course, *is not much concerned at those* Perils, *which otherwise would undoubtedly cause a* Shipwrack?

Shall I also compare it to an Infant

Infant, *which in the very* Exit *from the close* Confinement *of its* Mothers Womb, *and in the midst of its* Pangs, *wants a* Skilful Midwife *to hasten its* Delivery. *Thus* Sir (*to apply the* Allegory) *if this* Partus, *freed from the teeming* Womb *of its* Authors Brain, *wherein it was conceived and ushered* Naked *into the open* World, *doth but live, being* Received *and* Embraced *by such as are* Well-wishers *to those good* Intentions *that begat it; it must acknowledge its* Life *and* Entertainment *in the* World, *to be solely derived from you, who would so Candidly Vouchsafe to obstetricate it.*

Therefore Worthy Sir, *presuming upon your* Benignity, *I shall wholly devote it to your* Patronage, *and must assure you, that tho it be not a spurious* Brat, *yet I dare not acknowledge to be its* Parent *or own it to be my* Legitime Off-spring, *unless you will deign to make it yours* Adopted.

And tho it may be rather called an Embrio *than a perfect* Partus, *it being Fraught with many* Imperfections, *by reason of its* Parent's Infirmity, *yet I hope the* Consideration *of this will rather excite you to* Commiserate *it than cause you to* Disdain *to* Look *on it; for certainly it had*

had ere this proved Abortive had it not continued to this (small) Maturity, meerly being sustained by the hopes of your Readiness and Willingness to render your Aid and Assistance in the extremity of its Exit, and in the necessitous time of this its Delivery.

Sir, It is not because I think any Benefit will accrue to you by your Inspection into this Discourse, or that it will any way add to your Knowledge that I present it to you, but knowing that you have a Genius which inclines you to such Studies as these, as well to more sublime ones, I cannot but hope that you will Encourage the same, where you see it in others, and by a kind Ac-

ceptance *and a candid* Resentment *of these my* Endeavours, *manifest the same.*

Besides your willingly Patronizing *somewhat of my* Fathers (*tho on another* Subject) *some years since, was a great inducement to make me hope and expect the same unparell'd* Favour *from you; which humble* Request, *if you will condescend to grant, you will for ever oblige him who really is*

London,
Jan. 29th.
1679.

Sir,

Your Devoted Servant

Samuel Haworth.

THE EPISTLE TO THE READER.

Candid Reader,

KNowledge was ever worried with the reproachful terms of Pride and Prophanels, by some ignorant and blinded Zealots: And although these clearer and brighter days, it has obtained many Choice and Pious Patrons, yet cannot that vindicate it from being slurred and branded

branded with the most shameful and blemishing Titles; some do so illy resent what favours of it, that one would imagine that they had a secret Antipathy to it, lurking in the very frame of their Natures: Some damn it as Irreligious and Antichristian, and deem it wholly inconsistent with Gospel Simplicity; because it sometimes discovers the Darkness of that Light that they fancifully pretend to. Its wonderful to see how many are continually puffing at this Light; some with the more vehement blasts of Rage and Fury, others with the gentle ones of Scoff and Derision, but each equally designing its Final and Fatal Extinction. Revealed Knowledge, is to the Apprehension of some, a thing Dull and Irrational, Natural, with others is Sordid and Atheistic. Either of those Lights are much too Glorious for the vitiated Optics of such brutish Sensualists. Nothing gratifies

fies them but what accords with their Humerous Dispositions, and is tempered into a suitableness to their Corrupted Phancies: Its strange Men should so much oppose their own Happiness, disown their cleerest Faculties, and without the least shadow of Provocation, be content to place themselves in a lower Rank than God and Nature has allowed them. To talk of the Immortality of the Humane Soul, to vindicate its Difference from Material Substances, to assert its Divine Origin and Production, is now become sufficient to entitle a Person to the Malignant Scoffs of some Prophaner Wits: For Sensuality is so much their Element, that they are not easily perswaded to be Wise beyond it, neither can they be induced to think those things to have a proper Existence, which are not capable of being confined to their Predicament. So that whatever is

declared

declared of things Spiritual (things of a more Noble and Sublime Extraction than what's Corporeal) is by ſuch no otherwiſe eſteemed than impertinent Babling. All that we hear from them of theſe Matters, is only that conſtant Clamour, that to aſſert Immaterial, and Spiritual Beings is unintelligible Nonſenſe. But it were unworthy any Perſon of Ingenuity to be concerned, whenas the Purity of our Faculties, and a ſerious Reflection on their refined Nature, is Argument enough to convince any of the moſt prodigious unreaſonableneſs of ſuch Frantic Surmiſes: Should we to gratifie ſome perverſe Humoriſt, reſolve all our Knowledge into Senſe, we muſt be forced to confeſs that we underſtood ſcarcely any thing of our own Natures; that we exerted Actions, which we could no more, may leſs account for, than the Flux and Reflux of the Ocean;

and

and whose Fountain and Original would be as undeterminable as that of *Nile*. As for the reducing those Acts of Will and Understanding, or those finer Reflex ones, to the Arietations and Fortuious Jumblings of insensible Atomes, is a Notion exceedingly gross and absurd: For the most exquisite Motion of the smoothest and smallest parts of Matter is utterly incompatible with the subtle and refined Operations of a Spirits Faculties: So ridiculous does the Hypothesis of the Atheists seem to be, that I cannot imagine any should adopt it, unless he were swayed by Interest, or byassed by some secret thoughts of his being capacitated to maintain any thing against the most violent Assaults of his well accomplished Adversaries. Let the Atheistic Tribe brave it with never so much Confidence and Presumption, yet any Reasonable Person

Perſon may at an eaſie rate be informed of its groundleſneſs, and the Weakneſs of its ſupport. Strong Confidence ought to be built on weighty Reaſons and confirmed Truths, or the Superſtructure will become the Object of Mens Scorn and Deriſion: And whether the Confidence of ſome Atheiſts be any better founded, I think the following Diſcourſe may in part evidence to any impartial and diſ-intereſted Mind: I am perſwaded that this piece will be acceptable to any to whom Knowledge is dear and delightful, but I judge it will be far otherwiſe to thoſe that affect Ignorance, and Glory in their own Blindneſs and Stupidity, that like the *Negro's* think nothing Beautiful but what diſcovers it ſelf in their own Native Blackneſs: But it were apparent Folly to manifeſt any Reſentment of their Cenſures, who endeavour

to leſſen the diſtance between Man and Brutes, as is evidently viſible by their earneſt and vehement Attempts to caſheir that Knowledge that makes the difference the more wide and conſpicuous. The Subject of the enſuing Diſcourſe (as the Title Page aſſures us) is Man, the Compendium of the Univerſe, and a brief ſummary of all Natures Works; ſo that indeed a Treatiſe on this Subject, is as it were a Commentary upon the whole Book of Nature: For that there is ſomething In Man Analogic to all the Parts of the Harmonious Structure of the World, is that which the Treatiſe in its very Entrance repreſents by a very curious and exact Delenation: It deſcribes Man in almoſt all his Poſtures and Appearances, diſcovers the Noble Extraction and Origin of his Diviner Part; clearly manifeſts the ſublime Nature of the Properties and Faculties

culties of that Incorporeal Being; gives ſome probable Conjectures of its Condition, both Antecedent and Conſequent, to its ſtate of Union: Opens the Nature of the Affections, ſhews the Difference occaſioned by the Terminations of the Iraſcible and Concupiſcible Appetites on the Variety of Objects. Then it evidences to us the Souls Immortality and detects the Vanity of Atheiſtic Cavils againſt ſo famous and irrefragable a Truth: It alſo preſents us with a delightful View of the curious Frame of the Humane Body, and thence raiſes us to the Contemplation of the Ineffable Goodneſs and Admiration of the Stupendious Wiſdom of the Deity, viſible in the erecting ſo Amiable and Harmonious a Fabric. Then MAN in the differing circumſtances of Age, Sex, and Complexion, is offered us as the Object of our Speculation: So that the Author has traverſed

traverſed all the various Regions of the Microcoſm, and has notably deſcribed the moſt remarkable Occurrences in that intellectual Syſtem. The Deſign of which, without all Controverſie, is no other than to guide us in the practice of, and ſhew us the Comprehenſiveneſs of that Ancient Sentence, *Know thy Self*. The Diſcourſe aims at the Knowledge of our Selves, at clear and diſtinct Apprehenſions of our own Natures, at a view of our whole Frame and Module: And altho nakedly conſidered it be ſpeculative, yet it is directly levelled at Practice, namely, to aſſiſt us in the regular Ordering and Governing our Lives and Actions: it were then undeniable madneſs or conceitedneſs, to frown at, or ſhew a diſlike of the Endeavours of others advantaging us in a larger Proſpect of our own Beings: If we blame others, and diſparage their Labours

bours designed for our Benefit, it is an apparent Demonstration we maintain an over-winning Fondness of our own Abilities; what others may object against this Treatise, I am not able to conjecture, neither shall I be solicitous to enquire; but this I dare promise my self, that such as are acted with generous and ingenuous Souls, will be candid and favourable: But as for such as applaud themselves for their admirable Faculty in Obtrectation and Raylery, and such like disingenious Foolery, it were absurd to regard them. It is usually said, and I wish it were more considered, That its much easier to quarrel at Mens Discourses, than to frame one of a more even and methodic Composure. To censure Treatises or squable with them is no desperate difficulty, but to write others that shall in all respects wonderfully surmount them, is a Matter

ter of no great Facility. I confeſs a compleat meaſure of Confidence may accompliſh a Man for Drollery and Invectives; but there muſt be other Ingredients to make him deſerve the Denomination of truly Learned: And to ſuch as ſhall look on what the Author here Expoſes to the Public, with an Eye of Diſdain and Contempt, its my humble Requeſt they would recommend to us ſomething of their own on the ſame Subject, more worthy our Inſpection and Peruſal, by which thing I am perſwaded, they will highly gratifie the Author and pleaſe others. If Reader, the Authors Judgment and thine, may interfer (as its highly probable they may) let not that be cogent with thee to move thee to a diſlike of what he offers thee. Thou perhaps judgeſt thy Opinions to be founded on the plaineſt and cleareſt Evidence, when-as on the contrary, the Author preſumes, and that it may

may be not rashly, that his Sentiments are enforced with as convincing Demonstrations as any. It were therefore unbecoming to precipitate thy Sentence of the Treatise, either in a way of Commendation or Detraction, till thou hast deliberately weighed and considered the Design, Matter, and Method of it. Let it be but admitted to plead at the Bar of Reason, and I am confident the Author will be content to submit to any thing, that shall certainly be determined by that High Court of *Judicature*. What remains is only to recommend the following Discourse to thy Candid Perusal, hoping it may be of some Benefit and Advantage to thee. *Vale*

G. W.

On the AUTHOR.

BEgon faint Limners, with your vain pretence,
Of Plainly Repreſenting Man to Senſe;
Your Art's defective, you cannot Pourtray
This Lively Image, vain is your Eſſay,
By Lines, and Lineaments, his Shape t' Expreſs;
That makes not Man, which is his Garb and Dreſs:
The Soul's the Man, your Colours are too Dark,
To give the Features of that Heavenly Spark.
Learn then of th' *Author* for he it is that knows
To Draw the Man as well as Paint his Cloaths.

W. B.

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The Readers Courteous Correction of these, with other small faults that have escaped the Press, is humbly desired.

PAge 2 line ult. r. *Privative*; p. 9 l. 18 r. [illegible] p. 16 l. 5 r. *Crany*; and l. 17 and l. 19 r. *Manner*; p. 17 l. 12 r. *Distinguens ab omni alio*; p. 18 l. 14 r. *identity*; p. 20 l. 19 r. *convenerit*; and p. 21 r. *Medetur*; l. 3 r. *Mercule*; p. 22 l. 10 r. *a higher*; p. 23 l. 21, for *verified* r. *manifested*; p. 29 l. *ult.* r. *there* p. 47 l. 24 r. *do*; p. 5[illegible] l. 3 f. *Ascention* r. *Extention*; p. 60 r. *Stellator*; p. 69 l. 2[illegible] r. *Elicit*; p. 88 l. 10 r. *Habet*; p 104 l. 7 f. *ally* r. *dly*; p. 105 l. 12 r. *Arteria*; p. 125 l. 12 r. *an Artery*; dele *Comma* and l. 21 r. *it* p. 129 l. *ult.* r. *Hand*; p 130 l. 13 r. *Cubeus*, p. 135 l. 1 r. *Preservative*, and l. 23. r. *Contaminate*, p 1[illegible] l. 25 r. *Maladies*; p. 143 l. 28 r. *Eysipela's*; p. 157 l. 7[illegible] *Congener*; p. 162 l. 28 dele *by*; 165 l. 20 r. *brought*; p. 181 l. 8 r. *do*; p. 182 *l.* 5 r. *Volatility*.

A

DISCOURSE

CONCERNING

MAN.

A

Proemial Introduction.

WHen God the Supreme Being (within the boundless circumference, of whose Omnipotence is the possibility of effecting all things) in the beginning of time, by the Energy of his Puissance produced the Fabric of this World out of nothing, and caused this Visible Structure to

The Creation of the World.

Emerge out of a confused *Chaos.* He first animated that inert Matter, which he had created with the Mundane Spirit, which Vivifies the united Members of this Uniforme Globe; he caused the Vigorous Active Soul of the World to move upon the Surface of the Waters, and to agitate the Glideing Particles of that Fluid Element: This Universal Soul by its Energetic and Efformative Efficience Permeating, and Inhabiting all things, was continually fluctuating and never quiescent, till it had reduced its inordinate Domicil, to so harmonious an Order, to so regular and consonant a Situation, and to so elegantly Organized a Contexture as we now see it Beautified with. This is that δύναμις πλαστική, that Plastic Principle, which by its Prolific Virtue preserves the Species of things, and multiplies their Individuals determinates the Forms, Shapes, and Configurations of the same in their Generations. After this, he caused the glorious Light to shine forth out of private darkness

Of Light.

neſs; hereby the ſubſtances of Bodies were rendered viſible, and their Colours, Shapes and Figures, made conſpicuous. This is cauſed, ſaith a Learned Philoſopher, by the Conatus of the Globules of the ſecond Element, gathered together about their Center, to recede there from. Theſe Lucid Corpuſcles, at their firſt Creation, were equally expanded through the Regions of the Air; but now they flow and ſtream forth in a perpetual Current from their Center, or Fountain; theſe Rays or Emanations of Light by the Intervention of any Opace Body are reflected, by the Interpoſition of a Semidiaphanous Body are refracted, and they are contracted, and united into a Body of Fire, when they penetrate the Pores of a Burning-glaſs tending to a Conic Figure; to this Light God gave the Denomination of Day, and Darkneſs the Privation hereof, he called Night: When the Superfice of all things was apparent, and when thoſe minute Lucid Corpuſcles did penetrate the tranſpa-

Des Cartes Princip. Philoſophiæ.

rent Body of the Air, then the Coruscant, splendid, and Effulgent Glittering of the Day was present. But when these Rays, which are certain tenuious streams of igneous Particles, in a continued Fluor, and ineffable pernicity, succeeding each other in direct Lines, either immediately from their Fountain, or mediately from solid Bodies, reflecting towards the eye, and sensibly affecting the same; I say when these are obstructed by the interposition of any Opace Body between us and their Fountain; that Light that is between us and the thing interposing, doth presently fall down to the Earth, tending thereto by its own gravity, just like a Conduit, or Water-cock sending forth a stream of Water, when we apply our hand to the Orifice, the Water falling down towards the Earth doth disappear: Thus the Earth whose gross Body cannot be permeated by the subtile beams of Light, when it intervenes between us and the Sun, it causes the obumbrating Shadows of the Night to appear.

appear. But to proceed in traceing the Footsteps of the Divine Architect in the Works of Creation, till we come to that part we have designed for the Subject of this little Treatise. The next thing that he did, was his commanding the Heavens to be Expanded like a Curtain, and Extended into a רקיע an Expanse or Firmament; before the Word of Command was gone forth, the Matter whereof this Firmament doth consist, lay dormant in the תהו Tohu or Chaos, that Dense receptacle of all Corporeal Beings; where all Material Substances were Blended together: But when Omnipotence gave the Word of Command (Let there be a Firmament) there was suddenly made a great rarefaction, and some of that gross Matter was quickly transubstantiated, and turned into an Ætherial Substance; then those Celestial Orbs were wheeled about by the hand of Providence, continuing their regular Circumgyrations to the end of the World. The next thing that was done, was the

Of the Firmament.

Of Water. gathering together the Liquid Element of Water into its proper receptacle the Sea; it was then, the Water was incorporated with those Saline Particles, and impregnated with a Salt, which is Congenite and Concreate with it; but when this Water is Percolated or Cribrated thro the Sandy, Nitrous, and Luteous Glebes of the Earth, or rarefied and evaporated by the warmth of the Subterranean Fire, it relinquisheth the Salt, which is nothing but the thicker and longer Particles of the Water, and so hereby is reduced to that subdulcid Sapor, whereof our Fountain Waters do relish.

The cause of the Saltness of Sea water.

How it is made fresh.

It was then that those Limpid Waves began to fluctuate, then the flux and reflux of the Sea had its first beginning, not being caused by the Attractive Virtue of the Sun, nor by the Magnetic Influence of the Moon, as some imagine; neither by the Situation of the Subterranean Fire, causing in it an Ebullition, like the Boiling of a Pot, as others fictitiously conjecture; but by

Of the Motion of the Sea.

by the Motion of the Earth turning round upon its Axis once in a Natural Day; hereby the Water is agitated just as Water in a Vessel, the Vessel being shaken.

After this he commanded the Earth to fructifie and to yield its Vegetables; then the Prolific Sperm, contained within the Clods of the Earth, began to ferment; and hence Plants began to germinate. Now the creeping Mouse-ear shoots forth its hairy Leaves, now the venomous Crow-foot begins to spread its Claws, now the flourishing Alchimilla, or Ladies Mantle, adorns the Mountains of the septentrional Regions, and now the wild Tansie expands its Stems, beautified with Silver Leaves; now the Shepherds Purse dilates its Pouches; now the Scurvey-grass abounds with its Antiscorbutic Leaves; and now the refrigerating Hounds Tongue begins to blab; now the Dandelyon exhibits its crooked Teeth, and Horse-tail extends its Knotty Brissles, and the soporiferous Poppy is replenished with its narcotic *Of the Generation of Plants.*

Juice; now the Fields are every where invested with their verdent Apparel, for Botanists to recreate themselves with: and now the Phytologists may write Volumes of Botanology. I shall not here present the Reader with a Catalogue of Plants, it being too great a Digression from our present business, but refer him to those Learned Botanic Authors, who have already sufficiently done it, as *Johan Bauhin*, *Casper Bauhin*, *Gerard*, *Parkinson*, and Mr. *Ray* in his late Elaborate Compendious Catalogue; neither shall I here descend into the Anatomy of Vegetables, nor penetrate into the Bowels of Plants, nor yet delineate the curious Contexture of their parts, it being a work besides our present design, and seeing it is already so elaborately performed by Ingenious Dr. *Grew*.

Of the Heavens and Celestial Luminaries.

We come therefore now to the next Operation, performed by God in Building the Fabric of this World, and that is, the Creation of the Sun, Moon, and Stars, those Celestial Luminaries, those fixed and Erratic

Erratic Lights, then thoſe tranſparent Chriſtal Spheres, in which the fixed Stars are faſtned, were whirled about by the *Primum Mobile*; or rather thoſe Lucid Bodies, and Globulous Flames began to ſwim in the Fluid Æther: The Sun performing its Annual courſe, moving round the Eclyptic in the ſpace of a Year, and the Lunar Globe in its Monthly Circuit, performing the ſame in a little more than Twenty ſeven days; while the Earth, the Center of the Univerſe, where the more feculent and droſſy parts do reſide, is turned about upon its Axis in the ſpace of Twenty four hours, a νυχθήμερον or Natural day. *Of the Sun's Motion, with the Motion of the Earth.*

After theſe things were finiſhed, he Created the Living Creatures; thoſe Machins curiouſly Fabricated by the chief Opifex of Nature, the Fiſhes of the Sea, the Fouls of the Air, the Beaſts of the Field, and every creeping Vermine, and Minute Inſect. *Of Living Creatures.*

Now God having thus repleniſhed the World with all its materials, beautified and adorned it with all *Of the Creation of Man.*

its requiſites; the Morning Stars ſang together, and all the Sons of God ſhouted for joy, while he was making Man a Creature not much inferiour to them: Here he Epitomized thoſe Mighty Volumes he before had elaborately wrought; this is that little World, wherein all the parts of the Macrocoſm did concenter; this is the Compendium of the Univerſe, the Wonder and Miracle of Nature, the Mirrour of Divine Wiſdom, a Heavenly Coal blown up by the Divine Sparks of Infinite Prudence. What a perſpicuous Analogy, what a congruous Parrellelliſm, what an exact Similitude hath Man with the whole World, both in his Angellic, Heavenly, and Sublunary parts? The Soul, that Queen Regent in the Palace of the Brain, is the *Anima Mundi*, and repreſents the Soul of the World; the Spirits repreſent the Heavens, the Subtle and Æthereal parts of the Univerſe; the Four Humours bear a great Analogy with the Four Elements, Choler, that hot Sulphureous and Raging Humour,

Mans Analogy with the great World.

Humour, is like the furious Element of Fire, the calmneſs of the Blood is compared to the Serenity of Air, the dulneſs of Flegm, to the Hebetude of Water, and the Aduſt Melancholy is like the Feculent Earth: Hairs repreſent the verdent Vegetables; Bones and Stones in the Reins and Bladder, repreſent Rocks, Stones and Minerals; the Veins and Arteries, the Rivers and Caverns of the Earth; the Circulation of the Sanguine Liquor, is a repreſentative of the Motion of the Marine Waters, and of the Waters in the profound Abyſſes of the Terreſtrial Globe: Dew is repreſented by Tears, Hail by Concocted Flegm, Rain by the Humours that fall into the Throat, Thunder by Fury, Heat, Rumbling, Belching, and Winds by exhaled Crudities, Hiſſing, Singing and Ringing Noiſes in the Ears, *&c.* *See Crook's Body of Man.*

Now if the conſonant Order, harmonious Structure, and regular Compoſure of the greater World, be not enough to confute an Atheiſt, here is enough to aſtoniſh him; if the

the Contemplation of the Works of Creation, in reference to the Macrocosme, will not lead him to the acknowledgment of a Deity and first cause; here's that which will make it as Visible and Conspicuous as the Sun in its Meridian glory. Having cleared the way by this Brief Introduction, I shall without any further Remora come to the intended Scope of this Design.

CHAP. I.

Of the Distributions of Man into his Two Essential Constituing Parts.

The Two parts of Man.

Anthropology, or that Doctrine which Treats concerning Man, may rightly be divided into Two parts; *viz.*

Pneumatology, which gives an account of his Soul, and *Somatology*, which is the Anatomy of his Body.

Man

Man being defined a Substance, consisting of a Spiritual and Rational Soul, and of a fitly composed Body; in order therefore to the discription of this noble Creature, we shall first Treat of his more sublime and ruling part, his Soul; we shall endeavour to unfold the hidden Treasures, and Unlock those choise Curiosities that are cloistered up in the Cabinet of this *Pneumatic* Science, and that this might be done after a Methodic manner I shall first discourse concerning the Nature of the Soul. Secondly, concerning its Origen. Thirdly, concerning its Union to the Body. Fourthly, concerning its Immateriality. Fifthly, corcerning its Immortality. Sixthly, concerning its Extension; and Lastly, concerning its Faculties.

CHAP.

CHAP. II.

Of the Nature and Definition of the Soul.

An Introduction to this Chapter.

SEing the Soul is a Being, whose Nature is far above the reach of Sense, invisible to the most acute Acies of Corporeal Eyes, Intractable by the most sensible Organs of Touching; it is most evident that nothing can penetrate into the Bowels of this Golden Mine, or explicate the hidden Mysteries therein contained, but the Soul it self, she who is immaterial her self, can best by a reflex speculation explicate the Nature of a Spirit, and truly this Work must be set upon by the Soul, not with Rashness or Temerity, but with diligent Rumination, serious Deliberation, profound Contemplation, and sedulous Industry: For what Pedantic notions of the Soul have been abstracted from the Brains of some (tho

(tho counted very judicious) by reaſon of their Incogitance, others thro Critical Curioſity have broached ſome Notions as ridiculous as the former thro Inadvertency. What a ſilly Fiction is that, That the Soul is the Form of Man? And how unprofitable are the Diſtinctions and Diſputes of the School-men, concerning Forms, in Order to the Abettment of this Hypotheſis, is evidently manifeſted by that never enough praiſed Perſon the Honourable *Robert Boyle*. For it is moſt agreeable to the Canons of Reaſon, that Man being an Animal compounded of Two diſtinct parts, a Rational Active and and Cogitant Soul, and a fitly Adapted and Organized Body, each of which have their proper and particular Forms, hath no other Form (*quatenus compoſitum*) than the Union between the Soul and Body. *Plato* was greatly deceived in Imagining the Body to be no part of Man; but that Man was nothing but a Soul, making uſe of a Body as its Domicil, wherein it

That the Soul is not the Form of Man.

But that Union is the Form of Man.

is

is Incarcerated: But of all Opinions a more ridiculous could not have been invented than that the Soul is the Form of Man. Certainly this crackt the Cranny of him that found it out, else he would never have vented such Crack-brained Notions so frequently, one after another; yet such was his Estime and Credit, that many will still, altho with as little Reason as the Author himself, indeavor to abett this Assertion, That the Soul is the Form of Man, not the *Forma Informans*, say some of them, but *Forma Assistens*, as they call it; just as a Marriner in a Ship? yet who will be so arrogant to assert that a Marriner is the Forme of a Ship. But that I may a little demonstrate this Diametrically opposite Sentiment of mine, That the Soul can in no wise be imagined to be the Form of Man: I shall shew upon what Foundation this Assertion is established; and first, I say the very Notion and Definition of a Form cannot in the least be appropriated to the Soul; and it is agreed

Reasons to prove the Soul not to be a Form.

agreed upon by all, *Cui non convenit definitio, ei neque definitum*, beſide the Peripatetic and pretended Definition of a Form, *viz. Forma eſt per quod res eſt id quod eſt*, is no more a Definition of a Form than *Oculus eſt per quod aliquis videt*, is a Definition of the Eye. But a Form may be thus rightly Defined, *Forma eſt ens incompletum materiam informans unum per ſe cum materiâ conſtituens & diſtinguens ab omni alio.* *It is an incomplete Being, informing Matter, and conſtituting one Eſſential Being with the Matter, and diſtinguiſhing it from every thing elſe.* Now, Firſt the Soul is not an Incomplete Being; for an Incomplete Being is ſome Mode or Accident which cannot ſubſiſt unleſs coexiſtent with a complete Subſtance, but the Soul is a complete Being ſubſiſting of it ſelf. Secondly, the Soul doth not inform Matter, if ſo, it would be the Form of the Body; for then there would be an Intrinſic Communication of Eſſence and Eſſential Properties. We will grant there is a Preſence, a Contact, a Diffuſion, an

an Union, and an Actuation, yet none of these come under the Notion or Title of Information; and altho the Soul doth Actuate the Body, yet it doth not Communicate every Action to the Body, but performs many Actions without any dependance thereupon; as Cogitative, Intellectual, and voluntary Actions: But now a Form depends upon Matter in every (if any) of its Operations. Again Thirdly, the Soul is not one with the Body, neither in Identity as a Substantial Act (according to the Peripatetic Philosophy) is the same with the Substance; nor by inclusion or inherence, as a Mode or Accident is one with its Subject, but only in Composition, as Two United Parts are one, which still retain their proper Essences, and can exist a part: So that the Soul is an Essential part of the *Compositum*, and not the Form thereof. Lastly, it is evident that the Specific difference and distinction of Man is taken as well from one part as from the other: Man differs

fers from Angelic Beings in his Body, in his Soul from Inanimate Creatures; yea in his Soul there is something which distinguisheth him from Angels, and in his Body, whereby he differs from other Bodies: And as these two parts are so fitly composed and ordered, that they make one compleat Being, there are some particular Forms, Properties, and Modes, which discriminate him from all other things in the whole System of this habitable Orb; as,

Os homini sublime dedit cœlumque tueri
Jussit & erectos ad sidera tollere vultus, &c.

Now the definition which *Aristotle* gives of the Soul is far from explicating the Nature thereof, neither is it any way satisfactory, but *Ignotum per ignotius explicans*, explaining an unknown thing, by a thing abundantly more unknown; and that is this. *Anima est ἐντελέχεια, sive actus corporis Physici & Organici vitam habentis in potentiâ*: *The Soul is*

Aristotle's *Definition of the Soul, ridiculous and Pedantic.*

is an ἐντελέχεια, *or an act of a Physical and Organic Body, having Life in Power.* An unintelligible Coacervation of Non-sence, for who can interpret the meaning of *Aristotle's* ἐντελέχεια? I cannot Imagine, unless he do as *Hermolaus* a Famous *Barbarian* did, who when he had got some Society and Colloque with the Devil, the Devil demanded of him, What he should do for him? He said he desired nothing more than that he would explain unto him the word ἐντελέχεια in *Aristotle's* Definition. Yea, I can truly say concerning this, with a Late Author, *in eâ re nemo crassius* Aristotele *peccavit qui talem protulit animæ definitionem quæ omnibus plene rebus conveniret, & veluti commune emplastrum, vulneribus omnibus inedetur, præterea quid nobis distincti per actum vocem innotescit, nihil amplius me* Hercule, *quam si quis lucem definiat actum corporis lucidi & calorem actum corporis calidi.* In this thing no body hath more grosly erred than *Aristotle*, who brought forth such a Definition of the Soul, which is appli-

applicable almoſt to all things, and as a Common Plaiſter heals all Wounds: Beſides what would he have us to underſtand by the word Act? Nothing more truly than if any one ſhould define Light to be the Act of a Lucid Body, and Heat the Act of a Calorific Body. How manifeſt an Ambiguity (ſaith a Learned Writer) and how great an Obſcurity is there in the word Act, or ἐντελέχεια, which ſome tranſlate perfection? Such definitions as theſe, are ſo far from augmenting our Knowledge, and encreaſing our Literature, that they detrude us into inextricable Labyrinths, and obnubilate thoſe things which in themſelves are evident. Having thus laid down the reaſon why we cannot Aſſent to the Definition of *Ariſtotle*, it is now incumbent upon us to produce the true and genuine definition of the Soul; which is this: The Soul is an Incorporeal Cogitant Subſtance, or a Subſtance of a Spiritual and Incorporeal Nature, whoſe Eſſence conſiſts in Cogitation. This Definition is very com-

The true Definition of the Soul. Its Eſſence conſiſts in Cogitancy.

comprehensive, and very intelligible. The genus here ascribed to a Soul is a Substance, it is not a Mode, an Accident, a Form or Quality; but a Being of a self-subsisting Nature: It is a Spiritual and Incorporeal Substance, not an Igneous, Fiery, Flammeous, Aiery, Ætherial, or any Elementary Substance, but a Substance of higher Nature: It borrowed not its Origen from Matter, nor derived its Rise from any Corporeal Being; its very Essence and formal Reason is Cogitancy: It never ceaseth from performing the Action of thinking, be the Body never so profoundly Dormant, be the Animal Spirits never so Entoxicated, be the Brain never so much Stupified, the Soul is still Active, Cogitating, Ruminating or Contemplating; it may be troubled and diverted from being intent in its Conceptions, but the Act of thinking can never be impeded; neither can any thing put an end to its Cogitative Operations: There is no Narcotic Dose can cause the Soul to sleep, nor any Anodyne Medicine

to

to Entoxicate an Active Spirit: No, for when the Ventricles of the Brain are Obstructed by Opium, the spissified Juice of Soporiferous Poppies, or when the Spirits are Locked up by *Laudanum*, a more refined and rectified Medicine, the Soul is so far from being attached by the Narcotic Virtue thereof, that it is hereby rendered more intent in its Operations abstracted from Matter. When the Body is quiescent, it is not so diverted by sensible Objects, as it is in vigilance, when some External Objects do always present themselves to the Organs of Sensation.

Cogitancy hath no dependance upon the Body.

CHAP. III.

Of the Origen of the Soul.

HAving laid down the true Definition of the Soul, and perfited the falsity of *Aristotle's* Definition, proved it to be spurious and illegitimate in the precedent Chapter:

Chapter : We now proceed to its Rise and Origen ; and here we have to deal with a two-fold Antagonist. The First are, Those that suppose the Soul to præ-exist, that it was created in the beginning of the World, and so had a Subsistance long before it was united to the Body. The others are those that assert that the Soul is propagated, *extraduce*, or generated of the Soul of the Parents.

That the Soul doth not præexist.

If the first Hypothesis were true, the Soul would have some remembrance of its former condition ; the things which it had cognizance of before it was incarcerated in the Body (as the Platonists imagine) would certainly be now recorded: for the Memory is a faculty of the Soul, and essential to the same. And altho the Ancients did judge it altogether incongruous to bring God upon the stage perpetually ; and make him immediately interpose every where in the Generation of Men, by the miraculous Productions of Souls out of nothing ; yet if we well consider, we shall find that there may be very good reason on the

Cudworth's Intellectual Syſteme of the Universe.

the other ſide for the ſucceſſive Divine Creation of Souls; namely, that God did not do all at firſt that ever he could or would do, and put forth all his Creative Vigor at once in a moment; ever afterwards remaining a Spectator of the conſequent reſults. God might alſo for other good and wiſe ends, unknown to us, reſerve to himſelf the continual exerciſe of his Creative Power, in the ſucceſſive production of new Souls: The other is, that the Soul is propogated *Extraduce* from the Soul of the Parent, but the abſurdity of this Opinion, is evident enough from theſe following reaſons. (1) This Hypotheſis ſuppoſeth the Soul of the Parent to be Diſcerpible, and ſo to Communicate its own Eſſence to the Conſtituting the Soul of the *Foetus*, which can be granted to no Incorporeal Being. (2) It ſuppoſeth multitudes of Souls daily Created, which never come to perfection, as in Abortions, and Effluxes of Seed, and this ſuppoſition cannot but too much derogate from the

Neither is it propogated Extraduce.

Several Arguments againſt the Souls Propagation.

Wisdom of the Divine Architect. (3) Such is the *Genesis* of any thing as is the *Analysis*; but this is the *Analysis* of Man, that the Body should return to the dust whence it came, and the Spirit to God that gave it; so that seeing the Spirit had its immediate Origen from God at its Creation, doubtless at its Dissolution; it doth immediately return to him. (4) Were the Soul Generated *Extradnce*, it must either be from the Soul, or from the Body of the Parent, not from the Soul; because nothing can be Generated of a thing Incorporeal, Incorporeal Beings do not come under such alterations; not from the Body (*quia nil dat quod in se non habet*) Because no Incorporeal Thing can be produced out of a Thing Corporeal: Not from both, for then the Soul of the *Partus* would certainly participate of the Nature of them both, and so become a Substance partly Corporeal, and partly Incorporeal. (5) The only Way and Method of its being done, were it possible it could be done,

done, is enough to Induce us to believe the contrary; for then the Soul would be a Substance Compounded of Two pieces of a Spirit, the one abstracted from the Spirit of the Male, the other from the Soul of the Female Parent, and these Two Pieces or Parts Blended together into one, to Compose a Rational Soul; which supposal, how Irrational, Fictitious, and Ridiculous it is, any Rational Greature may presently apprehend.

The true Origen of a Soul, viz. That it is immediately Created by God.

It remains then that we lay down the true Origen of the Soul; which is, that it was immediately created by God, and infused into the Body. This Opinion, though it be ancient, yet several considerable reasons do incline me to believe it as Orthodox and Genuine, and the verity of it may easily be manifested, not only by the Confutation of the Two former Opinions; but from the Testimony of Sacred Writ. *viz.* he formed the Spirit of Man within him.

CHAP. IV.

Of the Union of the Soul to the Body.

THe Soul being a Substance of an Active and Vigorous Nature; God who is its Prime Parent, being the Father of Spirits, deemed it requisite to bestow upon it a Body dilicately Fabricated; not only that this might be its Domicil wherein it should lye Incarcerated (as the *Platonists* would have us believe) but he really intended that a part of a Spirits felicity should consist in its Union to some body or other, which it might make Use of, as a compleatly Organized Machin, whereby the better to performe its Actions; therefore to Angelic Spirits he gave Æthereal, Lucid, and Star-like Bodies; to the Souls of Men, while they continue in these Lower Regions, Terrestial Bodies; yet

That Spirits stand in need of Bodies to Act in.

yet curiously Fabricated and fit for their Motions and Operations; but when they are devested of these by the assaults of Death, then he orders them to enter into Aerial Vehicles, that so the easier they may Soar into the invisible Regions of the Cœlestial Habitacle, and to retain these till the Resurrection, when they shall re-assume their former Bodies Transformed and Modified into the Nature of Angelic ones. But I shall refer a further Procedure upon this, till I come to the Immortality of the Soul, and shall here treat a little of the manner of its Union to these our Bodies; This is a thing so sublime, that it transcends the reach of humane intellect to conceive; so capacious that it exceeds the limits of Reason to comprehend, so abstruse and difficult, that it puzzles the Wits of all Philosophers to demonstrate how Two Substances, the one Spiritual, the other Corporeal, things of a quite contrary Nature should constitute but one Compositum; what Medium these

can be found for their Union; by what means the more principal part doth Vivifie and Actuate the part more inferiour; what moving Virtue it doth Exert and Communicate to the Body, and by what kind of contact this is done? Surely these are things that none but he that is the Sole Author of these Phœnomena can demonstrate how, or in what manner they are performed; yet that they are performed is very apparent, and such is the curiosity of that busie and Pragmatic Creature Man, that he cannot contain himself from Prying into the Causes of those things; the effects whereof declare them so to be, tho they are never so abstruse: He thinks there is nothing so locked up in the Cabinet of Nature; but by his diligence he may find the Key, or that there are no Rareties Treasured up in the Magazine of this Created World, that he by a diligent Scrutiny cannot find out: Some therefore will tell us, That in Man there are Three Essential parts, a Body, a Soul, and a Spirit;

Spirit; the Body say they, is a Substance made of the Grosser Matter, *viz.* Flesh, Blood, Bones, Nerves, Cartilages, Veins, Arteries, *&c.* The Soul is a Substance tho Material, yet of an Ætherial and Subtilized Nature, Fiery and Flammeous, Participating both of the Nature of a Body and of a Spirit, and the Spirit which is their Third ingredient in their noble Composition, is altogether Incorporeal United to the Body, by the mediation of the Corporeal Soul.

Others will affirm that the Soul being the Ruling part, sits like a Queen in the Palace of the Brain upon her Throne the *Conarion*, which is a little Glandulous Body almost in the midst thereof; there she Contemplates of the Regions of her Kingdom, and the Members of that Common-wealth, being always attended with her Viceroy the Animal Spirit, whereby she doth at Pleasure send an Embassy into the most Remote Parts of this little World thro the Nerves. But how well the Authors or Abetters *The* Cartesians.

of these Two Opinions have hit the Mark. I leave to the Credulous Reader to determine; concerning the First, I shall only Query a few things; (1) Whether it be sense to say a *Material Soul*? (2) Suppose it be, whether there be any such thing as they imagine by it in the Body of Man? (3) Whether Body and Spirit be not things of a quite different Nature? (4) Whether Rarefaction or Subtilization make a Body to be less a Body, or more a Spirit, than it was before? (5) Whether a Red-hot Iron have any nearer Approximation to Life than it had before, or the Flame of a Candle, than the Extinguisht Snuff or Tallow of it? (6) Whether this Corporeal Spirit be Semi-corporeal and Semi-spiritual? As for the Second Opinion, let me Query: First, why the Soul should sit upon the *Glandula pinealis* more than upon any other part of the Body, and whence it appears that it doth? (2) Whether or no it be extended thro every part of the Conarion, or is only in one point of

That the Soul is not United by the Mediatioc of the Corporeal Soul evinced by several Queries.

Neither is it only United to the Glandula pinealis, *and thence Influences the Body.*

of it? If extended thro every part, then why not as well thro the whole Body? If in a point how it Acts and Influenceth the Body? (3) Whether this Virtue which the Soul doth Exert and Communicate in its Operations, be the Essence of the Soul or no? Now these Two Opinions seeming to disagree with the Canons of Reason and True Philosophy; it will not I hope be unkindly resented, if I exhibit another to the deliberate perusal of the unprejudiced, which altho at the first it may seem a little Uncouth; yet I am perswaded after some Consideration, it will appear to be attended with lesser Inducements, to make any Wise Man Incredulous of its verity than either of the former, and that is this, that the Soul is United to the Body by its Extension thro every one of its parts; that the Soul is Extended, is not my business here to Demonstrate, having designed a particular Chapter for it, to which I shall refer the Reader, and where I shall endeavour to remove the

But by its Extension thro the the Body, it Actuates all its parts.

difficulties wherewith this Truth may seem to be burthened: If this then be proved, how easily may we Imagine an Union of the Soul with the Body, to result from its Extension, and Diffusion thro the parts thereof?

CHAP. V.

Of the Immateriality of the Soul.

THe Immateriality of the Soul is a Truth so Undubitably certain, and so generally believed, that those who have arrived to that height of Audacity as to deny it, are justly looked upon to be no better than Atheists; for whoever is become so grossly erroneous, as to believe his own Soul to be material, is consequently reduced (may I say Blasphemously) to Ayerr the Nullity of a Deity.

O Incredulity not to be parallelled! O Atheiſme, abſurd and abominable! the Immateriality of the Soul may be evinced, Firſt from its Activity, In-activity is a property pertinent to Matter, for Matter can exert no action of it ſelf, no not ſo much as Local Motion, unleſs it be agitated by ſome External Cauſe, there being no ſuch thing as Natural Motion, Matter being a Thing Naturally Inert and Paſſive, but a Spirit which is of a Nature far tranſcending Matter, is always Active, and therefore *Plato* called it αὐτο-κινητὸν, ſelf-moving, it is an imprevaricable Law with all Bodies, that nothing whatſoever can move, unleſs it be moved by another; and hence it followeth that the Soul that moveth without being excited by any thing elſe; Acting and Operating from its own Intrinſic Power and Faculty, is of a higher Race than they, and conſequently Incorporeal. (2) The large Capacity and Diſcourſive Faculty of the Soul Demonſtrates its Spirituality, when we conſider the mul-

From its large Capacity and Diſcurſive Faculty.

multitude of things that are at once contained in the Soul; as likewise its Power of Exerting those Notions and Apprehensions, which it had Imbibed in Discourse, how can we Conceive any otherwise than that she is Spiritual in her Essence. (3) Its Simplicity, Uniformity, Immortality, Self-reflection and Perfection, are Infallible Manifesto's of its Incorporeity; we may also add Cogitation, a Property only Essential to a Spiritual Being; for as we said before, Matter cannot move it self; how much less then is it able to perform that excellent Operation of deeming and thinking? I am not Insensible how some do endeavour to evade this Argument, for a Late Author doth pretend to Solve the manner of Cogitation, without recourse to an Incorporeal Principle; for saith he, the very Motion of Reaction of one part of Matter on another, or at least the Continuation of this Reaction, can easily effect this; for we find by experience, when we are Occupied in serious Meditations, or diligently

From Cogitation.

Mr. Hobbs his Evasion.

ly incumbent upon our Studies, a great Commotion in our Heads, and a kind of Confuſion in the Parts of the Brain, which would not happen, except Perception and Cogitation did depend on Matter, and were made by the Motion and Agitation of the Particles of the Brain.

There might be ſome probability in this, if the Author could drive us to believe that there was nothing elſe but Matter in the whole Univerſe; but ſeeing this is altogether impoſſible, we ſhall condemn the other as falſe and ridiculous; for if this were true, why may not alſo the Bodies of Men, when defunct, be endued with the ſame Power of Cogitation? For they are then no leſs capable of Reaction, or Suſceptive of Corporeal Impreſſions; beſides if we divide Matter into Monads, or Minute Phyſic Particles; I Query, whether theſe Monads being ſeperated one from another, may be capable of Perception and Cogitation, or only the Compoſitum reſulting

Its Solution.

sulting there-from? Now I think there is no one so a Friend to Atoms, that he should think them to have Intelligence; for who can believe that the smallest Particle of Matter is indued with Sense and Perception? But if it be the whole Compositum, what can be the Reason that out of Insensible Things, should Emerge Things capable of Sense and Apprehension? How is it possible that from the various Coition of Atoms, which are Senseless and Incogitant, should be produced a Cogitant Animal?

A Digression concerning the Soul of Brutes.

Having thus proved the Immateriality of the Soul, I must crave leave here to make a little Digression concerning the Souls of Brutes, Whether their Souls be Immaterial or no? Concerning which, I shall Nominate Three Opinions, all which have been very plausibly received by many:

1. First, The Opinion of the Lord *Bacon*, Dr. *Willis* and *Gassendus*, who who do thus Philosophize; *viz.*

That Brutes have a Corporeal Soul

Soul, which being of an Ignite and Fiery Nature doth move the Organized Bodies of these Animals: For this See *Willis de Anima Brutorum*, *Du.Hamel, de Corpore Animato*: Bacon's *Natural History*, and *Learned Mr.* Gales *Philosophia Generalis*.

Secondly, The Hypothesis of Renowned *Des Cartes*, *viz.* 2.

That Brutes are nothing else but Machins curiously Fabricated by the chief Opifex of Nature; being Acted and Moved by no other than a Mechanic Motion, having neither Sense nor Perception in them; and this Opinion, saith Monsieur *Fernelius*, seems to be taken from the Philosophy of *Moses*, where the Blood is said to be the Life of Brutes. *Le-Grand* also in his Book, *De Carentia sensus & cognitionis in Brutis*, hath endeavoured to defend *Des Cartes*, and prove that Brutes are nothing but Natural Horologies, or Organs of Clock-work, being altogether as void of Sense, as Clocks performing their Motion the same way.

The

3. The Third is the Hypothesis of Famous *Derodon*, Dr. *More*, and Dr. *Cudworth*, *viz.* That Brutes are Acted by an Incorporeal Soul, not differing in kind from Mans, but only in degree.

That Bruits *have not Material Souls.*

From the First of these I must needs acknowledge my Dissent, or contradict my self in what I said before; (yet still retaining that Reverence and Adoration I bear to the Learning of its Authors.) For I have already declared that there is a contrariety between Matter and Spirit; so that a *Material, or Corporeal Spirit*, is a contradiction, and I have already said, that Matter of it self is Inactive Senseless and Inert: 'Neither can the Souls 'of Brutes, saith a late Learned Phi- 'losopher, be imagined to be Flame 'and Fire; for Flame and Fire is no- 'thing but such a Motion of the 'Insensible Parts of a Body, as 'whereby they are violently agita- 'ted, and many times dissipated 'for begetting those Flames of 'Light and Heat in the Animals:

Dr. Cudworth's *System of the Universe.*

Now

'Now there is no difficulty at all
'in conceiving that Insensible Par-
'ticles of a Body which were be-
'fore Quiescent, may be put into
'Motion; this being nothing but
'a new Modification of them, and
'no Entity really distinct from the
'Substance of the Body; as Life,
'Sense, and Cogitation are; and
'therefore it is but a crude Conceit
'of Atheists and Corporealists, That
'Souls are nothing but Fiery and
'Flammeous Bodies; for tho Heat
'in the Bodies of Animals, be a ne-
'cessary Instrument for the Life and
'Soul to act by in them, yet it is
'a thing really distinct from Life.
'We might also add, That accord-
'ing to this Hypothesis the Souls
'of Animals could not be Numeri-
'cally the same thro the whole
'space of their Lives, since that
'Fire, that needs a Pabulum to prey
'on, doth not always continue
'one and the same Numeric Sub-
'stance; the Soul of a new-born
'Animal could no more be the same
'with the Soul of that Animal Se-
'ven years after, than the Flame

'of

'of a new-lighted Candle is the 'same with that which twinkles in 'the Socket; which indeed are no 'more the same, than a River or 'Stream is the same at several di-'stances of time: Which Reason 'may be farther extended to prove 'the Soul to be no Body at all, since 'the Bodies of Animals are in a 'perpetual Flux.

Neither are they Insensible Machins.

Concerning the Second Hypothesis, which is the *Cartesian*, give me leave to say with an Ingenuous Author, *Nec demum negaverim, inquit, animalium corpora esse Machinas miro artificio coagmentatas, sed nihil esse quam Machinas, qua nihil sentiant, nihil agant ac pulsu tantum agitentur alieno, id vero addnci non possum ut credam; atque eos qui contradicunt appello, an nullam in cane Venatico cum per compendia viarum leporem insequitur nullam in leporibus cum per varios flexus canes insequentes eludunt, nullam in bestiis qua predâ vivunt, aut cognitionem immo & caliditatem & varios ut ita dicam artes animadverterunt?*

'I

'I will not deny, *saith he*, but that 'the Bodies of Animals are Machins 'by admirable Artifice compacted 'together, but that they are no-'thing else but Machins without 'Sense and Action, and only mo-'ved by Extern Impulse, is a thing 'I can never be reduced to believe; 'and I challenge those that contra-'dict me, to tell me, Whether in 'a Hunting Dog that follows the 'Hare the shortest way, or in a 'Hare indeavoring to delude the 'Dogs by her various turnings, or 'in those Beasts that live upon the 'Prey, they have not observed 'some Cognition, Sagacity, yea 'may I say Various Arts? What do 'these Mechanics intend, who do not only deprive Brutes of Cognition, but also of Sense? O absurdity contrary to common Experience! Do we not daily see Brutes (I mean the more perfect ones) to receive Sounds in their Ears, and thereby excited to Labour, Meat, Drink, and divers Actions? And who will deny that a Dog, a Cat, or an Ape, do discern their Food by Smells?

And

And certainly this Hypothesis was not dreamt on when this Distic was made:

Nos Aper auditu, Linx visu, simia gustu,
Vultur odoratu: præcellit Aranea tactu.

That Brutes are Senseless, and Inanimate things can no way be conceived; how then could Spiders so Geometrically weave their Cobwebs, and Bees so exactly form their Cellula's of an Hexagonic or Sexangular Figure? How could Foxes by that craft and cunning catch Birds, and deceive the Dogs that pursue them? *&c.*

But that Brutes also have Immaterial Souls.

The Third Hypothesis then is that which seems to be most Genuine and Rational: 'For if the Soul of 'Brutes be not Incorporeal, the Soul 'of Man can never be proved to 'be Incorporeal; for either all Con-'scious or Cogitative Beings are 'Incorporeal, or else nothing can 'be evinced to be Incorporeal. Those

Thoſe very things which we mentioned before to prove the Immateriality of the Soul of Man, are apparently to be ſeen in Brutes, as Activity, Diſcourſive Faculty, Uniformity, Cogitation, Cognition, and Sagacity, and the Actions we daily ſee performed by them, ſeem more like the Actions of Rational Souls than of Dead and Senſeleſs Matter; as Doubting, Reſolving, Inventing, *&c.* as is evident in Hawks, Dogs, Jaccals, Foxes, *&c.* and then by the Docility of them, and certain Continuate Actions of a long Tract of Time, ſo orderly performed by them, that they ſeem to argue Knowledge in them, rather than to proceed from Brutiſh Matter: Nay more, in ſome Beaſts there is Preſcience of Future Events and Providences, the Knowing of Things never ſeen before, and ſuch other Actions obſerved in ſome Living Creatures, which ſeem to be even above the Reaſon that is in Man himſelf. Neither indeed is the Objection of any conſequence, which our Adverſaries would retort upon *An Objection.*

upon us, *That this Hypothesis supposeth also the Souls of Brutes to be Immortal; which is a Notion dangerous and destructive* (say they) *to the Rule of Christianity.*

Answ. To this I answer, That there seems to be no great Reason why it should be thought absurd to grant Perpetuity of Duration, to the Souls of Brutes, any more than to every Atome of Matter or Particle of Dust in the whole World; so that this Objection hath nothing of validity in it; for they are Durable, whether Corporeal or Incorporeal: For Heaven and Earth, and all the parts constituting the same, will never be annihilated, but metamorphized and changed: And so the innumerable Company of Souls that were created by God, may very well be supposed to survive their separation from the [illegible] which they actuate; and so continue in a State of Immortality: being continually preserved by the Almighty Concourse of Him that created them. Not that I think the Souls of Brutes

to

to be capable of that Felicity or Misery the Souls of Men are; but we may either suppose them to proceed from the *Anima Mundi*, or Soul of the World; which may also be supposed to be Immaterial, and so return to it at the Dissolution; or rather, that when they are divested of their Bodies, they take to themselves Aereal ones. Some there are that will not admit, but explode Aereal Vehicles; who suppose, That the Souls of them surviving Death, doth so continue in a State of Inactivity, Insensibility, Sleep, Silence, and Stupor, until by a Transmigrarion they re-assume new Bodies to act in: for while Spirits are divested of Bodies, they cannot exert any Action. But this Supposition would destroy our own Assertion alrady laid down concerning the Active and Cogitant Nature of the Soul. But least I should exceed my bounds, in too long a Digression, I shall now come to the next general Head proposed in Order to treat on; and that is, *The Immortality of the Soul.*

CHAP.

CHAP. VI.

Of the Immortality of the Soul.

The Immortality of the Soul proved,

FRom what hath been already alledged concerning the Nature, Origin, Union, and Immateriality of the Soul, may with great facility, and by necessary consequence be gathered its Immortality also; and the fore-precedent things may serve for Topics, whence we may raise so many Arguments clearly to evince the same.

From its Nature.

The Nature of the Soul is so evident a Demonstraitve of its Immortality, that whoever understands the one, cannot but easily apprehend the other. Is not Spirituality a plain Manifesto of a Durable Existence; and Activity, and Cogitancy, an inseparable Concomitant of Immortality? How undeniably doth *Plato*, the Mirror of the

the Mirror of the World for Learning, demonstrates from the Souls being Αὐτοκίνητον, *Self-moving*; that it is also Ἀεικίνητον, *Ever-moving*: Is it probable that those innumable Creatures (whose very Essence declares them to be made for a higher end) were created for nothing but to actuate these Bodies for a momentary space; and then to return to nothing? Shall those Pious and Divine Souls, who for hopes of the Fruition of the endless Pleasures of another Life, have with great alacrity and content of mind undergone the difficulties of this Mortal Pilgrimage, find nothing at the end of their Journey for their reward but a final annihilation? And shall the malevolent Slaves of the Devil, who have lavished their Patrimony, and spent their days in serving the God of this World, and in doing Obeisance to their Lusts and Debauched Appetites, be discharged from the Penalty of their horrid Crimes by a Cessation of their Essence? What can prove a greater Derogation from the Equity of a

From its Origin.

just Creator, than so gross a Supposition? Will He, who hath formed a Creature so like himself, so soon destroy it? What can be a greater Reflexion on his Wisdom? Shall that puff of Divine Breath, which had its Rise from Gods Immediate Inspiration, subside, vanish, and become a Non entity? Certainly That hand that could immediately produce a Being out of nothing, can by an Immediate Concourse preserve it from relapsing into nothing again; neither are there any Motives to perswade him that can do this, to will the contrary. Were the Soul generated from the Parent, it might then be corruptible, but it hath its Origin from a higher Principle, it must needs then be of a Nature more lasting, permanent, and durable.

From its Union.

Its Union also is another Test of its Immortal Existence, if it were united to the Animal Spriit by its near Approximation to the Nature of it, or if fixt and fastened to the Pineale Glandule, this might be a plausible Pretext to make us entertain

tain some thoughts of its Mortality and Perishing with the Body; whereby it is so much influenced; but seeing its Union is caused by its permeating the Body, and extending and diffusing it self thro every part thereof; and so by a vigorous Energy actuating the same, certainly all such Imaginations conceiving it Mortal, are now banisht and exploded.

From its Immateriality.

Our Fourth Topic is not likewise empty of proof to demonstrate this Truth. Were the Soul a Substance compounded of the Four Elements or Five Chymic Principles Blended together, we should have little reason to plead for its Immortality, because all Corporeal Things are subject to Corruption, and have that within the verge of their own Essence, that in time will cause a Dissolution in them, *Num contraria contrariis destruuntur.* For Contrary Things are destroyed by their Contraries, and all Mixed Bodies have within themselves Qualities (may I call them so) repugnant one

to another; but the Soul, as hath already been proved, being of an Immaterial Nature, is not obnoxious to any such Cause of Mutability: And Nature it self teacheth us, That whatsoever hath a Being, will be possessed of it, until it meet with something to destroy it: But now what contrary Principles, opposite Elements, or repugnant Qualities, can Psycotomists or Anatomists of Souls (I mean those that hold them Material and so Mortal) find in the Analysis of Spirits? There are many more Arguments of undubitable Verity and undeniable Evidence, to evince the Souls Immortality; as its Infinite Desire of, and its Solicitude about an Immortal State, its Dissatisfaction under all the Felicities of this Life, and vehement Appetite and Desire after Eternal Beatitude; the Fear of Death, the Remorses and Stings of Conscience which all Men fall under upon the Sense of Guilt. But the Largeness of the Subject, and the intended Brevity to which I have limited my self, will admit only of a Transi-

More Mediums to prove the same.

tion

tory Glance upon every Thing that occurs to our Speculation. Having therefore proceeded thus far, I shall add a little concerning the Manner of the State the Soul remains in immediately after its Dissolution from the Body, and that is, That I do not believe, as some do, That it remains in a State of Sleep and Stupor, till the Resurrection, but that it takes up an Aereal Vehicle, and hereby its Motion is made Feasible; which if the Soul were devoid of a Body, it would be impossible to perform. If the Soul, immediately after its Separation from the Body, pass not only into a State but a Place either of Eternal Misery or Everlasting Happiness, it is contrary to the Laws of Nature it should be carried thither without a Body; for *Loco motion* is a Property of Bodies, and no way to be performed by Spirits separate from Bodies.

Of the State of the Soul after Death, that it doth not sleep.

That Souls assume Vehicles after Death.

'Besides (to argue for Vehicles) 'it is a Priviledge proper only to 'the Deity, to live and act a-

Arg. 1.

'lone without Vital Union with a 'Body.

Arg. 2. 'It is Natural to a Soul to inliven 'a Body, and therefore it is not 'probable that it should be kept so 'long in an Unnatural State of Se- 'paration.

Arg. 3. 'Again, It is more than proba- 'ble from Scripture, That the Souls 'of Wicked Men after Death have 'Punishment of Sense and Pain, be- 'sides Remorse of Conscience. But lest some out of prejudice should condemn this Opinion of Vehicles, as an Opinion newly feigned and foisted into Phylosophic Books, more out of Novelty than Probability; or as an Assertion dangerous or inconsistent with true Faith and Religion; I shall produce now the Testimonies of some of the Ancient Fathers, who were the Abettors of this Hypothesis.

Vehicles owned by the Ancient Fathers.

Tertullian and *Irenæus* were of this Perswasion, *Origen* also was of the same mind: *Viz.*

That

That Souls after Death have certain Subtil Bodies, retaining the same Characterizing Form which their Terrestrial Bodies had; and that the Apparitions of the Dead, are the Souls themselves surviving in a Luciform Body. *Augustine* also granteth, *That Souls after Death cannot be carried to any Corporeal Place, or locally moved, without Bodies. Nor is it conceivable how Imperfect Beings could have Sense or Imagination without Bodies*, saith Origen: *For*, saith he, *It is the nature of an Incorporeal Thing, always to stand in need of a Body suitable to the Place wherein it is.* And altho I must confess *Origen* did maintain some things contrary to the Doctrine of the Church, yet his Authority is no less Authentic for this thing than the Authority of the rest; because this was never reckoned in the Catalogue of his Errors. Origen contra Celsum.

Let me adde likewise, That our Saviour's bidding his Disciples feel him, and telling them a Spirit had not Flesh and Bones, that is, no Solid Body, seems to imply that they *The same implicitely evidenced from Scripture, and from Mo-*

ses and Elias appearing upon the Mount. And from all other Apparitions.

they have Thinner Bodies, which they may visibly appear in: And also *Moses* and *Elias* visibly appearing upon the Mount, argues, That they had real Visible Bodies.

Hereby likewise we may very easily solve the *Phænomena* of the Apparitions of Men and Women after their death, without imagining that they take up their Bodies when Defunct, and walk about with them; or that these Bodies are actuated by the Devil; for then they would become Objects of the Sense of Feeling: but those that have seen such Apparitions, do declare the contrary, finding no resistance when they strike at them: Likewise their vanishing and seeming to penetrate Doors or Walls, shews they are not those Bodies; and certainly they cannot be supposed to be the Souls themselves separate from all Body; for they are never visible. But if we will admit this Hypothesis of Vehicles, we may easily imagine how they retain their Visibility; by causing only a Reflexion of Light,

Light, and loſe their Tractability by reaſon of their Tenuity and Rarity.

Now at the Reſurrection, theſe Souls which have dwelt thus long in Vehicles, do re-aſſume thoſe very Numeric Bodies which before they depoſed; yet not ſuch groſs corruptible ones as they then were: 'For the happineſs of Souls 'conſiſteth not in their Conjun-'ction with ſuch groſs Terreſtrial 'Bodies as theſe we now have; 'Scripture as well as Philoſophy 'complaining of them as a heavy 'load and burthen to the Soul 'but the Soul at the Reſurrection 'will aſſume a Body Immortal, In-'corruptible, Glorious, and Lucid, 'Star-like and Spiritual, Heaven-ly and Angelic, not this Fleſhy 'Body gilded and varniſhed on 'the out-ſide only, but changed 'thro-out: Our Souls are Strangers and Pilgrims in theſe Terreſtrial Bodies, their proper Home and Countrey is their Heavenly Body; theſe very Bodies we now carry about with us, ſhall then be

Of the Reſurrection and New Modification of the Body.

transformed and modified into a Heavenly Form; and this is very agreeable with the Principles of Nature; for according to Phylosophy, the Grosseſt Body, may by meer Motion be reduced to the Rarity and Tenuity of the Fineſt Æther; and if thus, what then cannot the Wiſe Fabricator of Heaven and Earth perform?

CHAP. VII.

Of the Extenſion of the Soul.

HAving already aſſerted the Extenſion of the Soul thro the Body, it is requiſite I ſhould a little demonſtrate, or at leaſt explicate, my meaning in this my Aſſertion; then if I remove thoſe Difficulties which this Hypotheſis may ſeem to labour under, and manifeſt the contrary Aſſertion to be attended with far more and greater difficulties, I hope

hope I ſhall have performed my promiſe. As for the Objections againſt the Souls Extenſion, I know but two that have any thing of validity or cogency in them; nor they neither, when rightly conſidered. The Firſt is this, *viz.*

That this ſuppoſeth the Soul to be Material, for ſay they, Extenſion is an Eſſential Property of Bodies, and applicable to no other Creature; yea ſays *Cartes*, The very Nature and Eſſence of a Body conſiſteth in nothing elſe but Extention. *Obj.* 1. Cartes Princ. Phil. Pars I. Sect. 4.

To this I anſwer, That both Reaſon and Experience atteſt the contrary; for were Extenſion a Property only pertinent to Matter, then the Notion of a *Vacuum*, proved by unanſwerable Arguments, and demonſtrated by viſible Experiments, muſt be quite exploded: Are not Local Motion, Rarefaction, Condenſation, Levity, and Ponderoſity, the Corporeity of Light, and its Expanſion thro the Air, Rational Grounds *Anſ.* *Arguments to prove a* Vacuum.

Grounds to induce us to believe that there are certain Disseminate *Vacuola* in Bodies? Which Mediums you may see exceedingly well promoted by Renowned *Gassendus*, a Learned Senator of *Epicurus*, and Eminent Dr. *Charleton*, a Proselyte of *Gassendus*; but if Reason will not evince, let Experiments demonstrate. The Torrecellian Experiment, so often mentioned in the Elaborate Works of the Royal Society, is an infallible Proof hereof: And hath not the Honourable *Robert Boyle*, made it indubitably certain by his Excellent Instrument the Air Pump. How this Experiment is performed by it, you may see in his *Physico-Mechanic Experiments.* Also the Experiment of the Æolipile doth plainly evince it: And surely Dr. *Henshaw*, Member of the Royal Society, doth suppose the being of a *Vacuum*, when in his *Aerochalinos* he lays down a Method of Building of a Domicil to change the state of the included Air, by letting it out and in at pleasure. This is so evidently demonstrated

Gassendus in Epicurum.

Charleton's *Philosophy.*

Boyle's *Physico-Mechanic Experiments.*

Dr. Henshaw's *Aerochalinos.*

A Vacuum *demonstrated by Experiments.*

monſtrated by our late Ingenuous Philoſophers, that I think none now (but thoſe who thro prejudice are reſolved to penetrate no farther into the Bowels of Nature, or make no deeper Scrutiny into the Myſteries of Philoſophy, than is conſiſtent with the Old Phyloſophy, or than the Ancient Libels lead into) can be ſo Irrational, as to deny it: I ſhall therefore alſo, as the Writers of this Age do, take it for granted, and make this my Medium to beat down the Pretended Maxim; *viz.* That Extenſion is a property eſſential to Matter; for if there be a *Vacuum*, then undoubtedly there may be Extenſion without a Body; and then Extenſion is no leſs congruous to Incorporeal than to Corporeal Beings. Theſe Corporealiſts are quite miſtaken in the Notion of Space, for by it we do not mean *Superficies corporis ambientis*, as *Ariſtotle* feigned, and whom *Cartes* ſeems to abett in his *Princip. Phil. Part.* 2. *Sect.* 15. Nor as *Cartes* really expreſſeth, *Sect.* 11. a thing not really

The true Nature of Space.

ly

ly different from a Corporeal Substance; but a real Entity, distinct from all other Beings: for *Ens* being the most General *Genus*, is not so narrow, as to admit of a Division, but into two parts; *viz.* Substance and Accident: but the genuine Division of *Ens* is into Substance, Mode, Space, and Time; which two last are more general than the other, and can no way be comprehended under either of them. Having thus manifested the fallacy and invalidity of the fore-mentioned Objection, I shall now proceed to the other, which is,

Obj. 2. That if the Soul be extended, it is then divisible; for, say they, if it be extended, it is constituted of parts; and whatsoever is so, may be divided. Now to suppose the Soul to be divisible, is very Absurd and Irrational.

Ans. To this I also answer, That by Extension I do not mean a rendering a Thing liable to actual division

visiion, but a real amplitude of Essence. Extension is not the *Ratio formalis* of Bodies, but only as Dr. *Glisson* in his Book *De Natura Substantiæ Energetica*, saith, An Accidental Property; which belongs to all Substances both Material and Immaterial: Besides, I grant that Spirits are divisible Intellectually, but Physically Indiscerpible; for what is Intellectually divisible, may be Physically Indiscerpible; as it is manifest in the Nature of God, whose very Idea implies indiscerpibility; the contrary being so plain a Contradiction. By Intellectual Divisibility, I mean nothing but that Spirits being extended thro a divisibile Space, with the Division of the Space there may be a Mental Division of the Spirits in it; but Discerpibility is, when a Thing may actually be seperated one part from another; this is no way congruous to a Spirit. So that a Spirit may be divisible, altho Indiscerpible; which may serve for a sufficient Solution to this Objection.

Wherein the Nature of Extension doth consist.

A Distinction between Divisible and Discerpible, and that the Soul is Mentally Divisible, tho Actually Indiscerpible.

The

The Difficultes that attend the other Hypothesis are unanswerable; If the Soul be not extended, we must either suppose it to be, *Totum in Toto & Totum in qualibet parte corporis*, The whole Soul in the whole Body, and the whole Soul in every part of the Body; as the Peripatetics imagine it to be: Or else, That it exists but in one particular Point, and then virtually actuates the whole Body: Which Supposals, how contrary to Reason they are, need not much Demonstration. As for the First, there is no contradiction I ever yet heard of, can parallel it; for it is as much as to say, That One and a Thousand, are one and the same number: For we will suppose the Body to be constituted of a thousand parts (which it may very easily be divided into) and that if a whole Soul can be essentially in every one of these parts, we must needs then suppose there to be a thousand whole Substances; and how these thousand whole Substances should be but one whole Sub-

That the Soul is not Totum in toto & totum in qualibet parte Corporis; *as the Peripatetics assert.*

Substance, is not only inexplicable but irrational and inimaginable: If the whole Soul (that is, every thing of the Soul) be in the little finger, who can possibly imagine any thing of it, much less its total Substance, to be in any other part of the Body; unless they will also affirm, That Spirits have a peculiar power of being present in many places at one and the same instant; and so rob God of the Attribute of his Omnipresence: making Spirits to participate of the same.

The next Supposition, Tho an immediate consequence of the Non-Extension of Spirits (for if they are not extended thro a Space Divisible, they must needs be limited to an Indivisible Point) is not much less absurd; for how then can it be united to the Body, and as I said already, how can it exert any action upon the Body? They will say, Perhaps, it operates upon the Body virtually, by causing a virtual Impulse upon the Organs of it; but this virtue must be either something of the Essence of the Soul,

Neither is the Soul in an Indivisible Point.

Soul, or something distinct from it: If it be the Essence of the Soul communicated to the Body, then its Extension is granted; but if it be something distinct, I answer, *Nil dat quod in se non habet.* Some of the Assertors of the Souls Existence in a Point, are possessed with such merry Conceits of Spirits, as to imagin that a thousaud Souls can dance upon the point of a Needle at one and the same time, and have room enough to tread their Paces.

Its Extension hence undeniably demonstrated.

See Dr. More's Divine Dialogues, p. 1.

CHAP. VIII.

Of the Faculties of the Soul.

What the Faculties of the Soul are.

BY the Faculties of the Soul, we are not to understand things really distinct from the Humane Soul, nor each from other; as the Aristoteleans would have the Understanding and Will to be; but only

ly different Modes and Ways of the Souls Operation, ſpecified by their Formal Objects and Acts. Thus as it forms Idea's and Notions of Things, it may be termed the Underſtanding; but as it is allured by the goodneſs of the Object, and thence moves towards it, it may be termed the Will. The Underſtanding is converſant about its Object, as true, the Will about its Object, as good: As the Soul doth contemplate, deliberate, judge, diſcourſe, and conclude, it may be termed the Underſtanding; but as it chooſeth, proſecutes, or avoids an Object, ſo it may be termed the Will. Now the ſeveral diſtinct Modes of the Souls acting, are commonly reduced to five Heads; which make the ſame number of Faculties: and they are the Underſtanding, the Will, the Conſcience, the Affections, and the Memory.

How the Underſtanding and Will differ. Gale's Philoſ. Generalis.

The Number of the Faculties.

The Underſtanding is called by the Sacred Philoſopher, *The Candle of the Lord.* This is it that governs the inferior Faculties, eſpecially the Imagination and the Phantaſie; the

Prov. 20. 27.

The Underſtanding.

Its Formal Object Truth. the Formal proper Object of the Intellect is Truth, which as one very well asserts, is congeneal and nearly allied to the Mind: It hath Nine Intellectile Habits, Opinion, Experience, Imitation, Faith, Sapience, Intelligence, Science, Prudence, and Art; to which, some adde Cognition; which is ὁμοίωμα πράγματος, a Representamen of a Thing in the Intellect.

The Will. The Will by *Plato* is defined, ἔφεσις μετὰ λόγου ὀρθοῦ, a Desire with right Reason, or ὄρεξις ἐλλογος, a Rational Appetite.

The Action of the Will is two-fold, the one consists *in effectu*, the other *cum affectu*; from which Distinction that Common Distribution of Voluntary Humane Actions into Elicit and Imperate, had its Origin.

The Object of the Will good. the Object of the Will is Good, and that which terminates and bounds its Appetite finally is the chiefest Good and last End.

The Conscience no distinct Faculty. The Conscience is a Reflexion of the Understanding upon Mans Actions, together with a Sentencing them to be either Good or Evil according

according to those unquestionable Principles already received; or it is the judgment of man concerning himself; as it is subjected to the Judgment of God. So that properly the Conscience is no distinct Faculty from the Understanding; this is that, *Search that which is made by that Candle of the Lord in the lower parts of the Belly.* It is called a Judgment, that thereby it may be distinguished from a naked Apprehension of the Truth; for it always contains in it a firm consent; and we do not take Judgment here for an Habitual only, but also for an Actual Judgment. *Dr. Ames.* *Prov. 22. 27.*

¶ The Affections also do not properly make a distinct Faculty from the Will, the *Voluntas in affectu*, or the ellicit root thereof; God being the Object of the Will, having many Kinds and Degrees, according to the different manner of the Souls consideration of it; it excites different Affections in the Will; and first of all, when any thing good or convenient, or at least so apprehended by us to be, is represented *The Affections not distinct from the Will.*

to

to us; it presently excites in us the Passion or Affection of Love to it, that we prosecute it with a desire, that it may either be united to us, or remain with us; but on the contrary, when any evil or noxious thing is exposed to us, it immediately stimulates us to Hatred the opposite Affection: to Love as it is an Affection of Union with present Good is often joyned Joy, and to Hatred Sadness; and when there is a full and perfect possession of this desired Good, then there is pure Love, and solid and sincere Rejoycing; but when there is not a perfect Fruition of the thing beloved, then Desire is joyned with Love, and Sadness is mixed with Rejoycing. Likewise, with a desire of Absent-good there is mixed Hope and Fear, according to the probability of a good or evil Event, Issue, Effect, or Consequence of the matter; which Hope, if it be very great, is called Faith and Confidence; but when small or no hope is mixed with abundance of fear, it degenerates into those spu-

Cartes.

rious

rious Affections of Unbelief and Deſpair. Theſe Affections, eſpecially Love and Deſire, do vary and differ much, according to the Opinion we have of the value of the Object; for when the intrinſic or inward perfection and pulchritude of the Object is only look'd upon, then there is a Love of Complacency, and the Object is properly ſaid to pleaſe; to this is oppoſed an Averſion from an Object, by the conſideration of the contrary Imperfection and Deformity, but when we conſider of this Perfection as convenient for our ſelves, and ſee it agreeable with our Nature; this Love of Complacency is turned into a Love of Concupiſcence, which is another Affection of the Soul, and properly another kind of Love. Again, When the Lover hath a leſs eſteem of the Object than of Himſelf, there thence ariſeth a ſimple Propenſion, which is called Benevolence. Thus we love a Flower or Bird, *&c.* When we love an Object equally with our ſelves, thence ſprings Friendſhip and

How Love is cauſed, its ſeveral kinds.

and Charity, and such is the Love of Parents to Children, and Conjugal Relations one to another; but when there is a higher Valuation of the Object than of our Selves, as we all ought to have of God, our Prince, City, Countrey, Parents, and Friends, that are eminent in Vertue and Merits, this kind of Love is called Devotion. Among all the Affections and Passions of the Soul, Love bears sway; for the several Affections of the Will, are but various Forms and Shapes of Love, which gives swift Wings and strong Legs to the Soul to pursue what it loves. There is no Affection of the Soul but Love hath it at command; the Will governs all inferiour Faculties of the Soul, but she is governed by Love. *Plato* makes Love to be the great *Hero* that governs the World, so universal is its Empire and Dominions. If the Object beloved be absent, then Love fixes the Will with ardent desires after it; if this Absence be attended with Difficulties or Affronts, than Love goes forth in Anger

Love the chief Affection of the Soul.

Anger and Fear, to conflict therewith; and Hope with Courage, for the attaining the Object beloved. If the Good be present, then Love embraceth it with Complacence and Delight; if lost, then it bewails its loss with Sorrow, and according to the Nature and Measure of the Love, such will be the Nature and Measure of the other Affections that issue from it: But we will say no more of the Affections.

The Memory, is that Faculty of the Soul, whereby it treasures up those things it hath received; this is the Magazine of Notions, it is the Souls grand Repository, wherein it reconds its Riches, and draws them forth according to Pleasure. *The Memory.*

CHAP. IX.

Of the Parts of the Body.

HAving thus far considered Man in his more Sublime, Superior and Cœlestial Part, we now descend to that Part which is Inferior, and more Terrestrial; *viz.* The Body.

And indeed it is not a Work, much less difficult, accurately to delineate the Parts of the Body, than to explicate the Nature of the Soul; the manner of acquiring Knowledge in both these Parts is much different. For the one is done by Profound Contemplation, the other by Ocular Inspection; the one by a Mental Notional Penetrateing into the Bowels of a Spirit, the other by an Actual and Manual Dissection of Bodies. As for the Doctrine of the first, which is πνευματολογία, *Pneumatology*, we have already handled it

We come now to the *Somatologic* Part, which is strictly called, *Anatomy*: *Anatomy* then is a Science which hath the Body of any Animal for its Subject, whether Terrestrial, Volatile, or Aquatile; yet among the number of Animals, the Body of Man is to be preferred, both because of the Pefection of its Parts, and because endless would be the Dissection of other Animals; they being almost innumerable: and likewise because of the incredible Conducement of Anatomizing Humane Bodies, both for preserving and restoring the Health of Man: But seeing the Bodies of Men defunct are not always at hand, it hath been a Custom of Ancient standing, even among the Learned, to Dissect the Bodies of other Living Creatures. *Democritus* by his frequent Dissection of divers sorts of Animals, is said to have first found out the proper Seat of the Bile. *Galen* also accustom'd himself to the Dissection of Apes and Monkies. *Severinus*, *Castellus*, *Bronzius*, *Panarolus*, and many others,

Anatomy its Subject.

were wont to Dissect the Bodies of dead Dogs: But *Asellius*, Dr. *Harvey*, *Wallens*, *Bartholine*, *Pecquet*, *De Graaf*, and others, did frequently cut open Dogs, while they were alive, and hereby found out the Lactean Veins, the Circulation of the Blood, the Thoracic Veins, the Lymphaducts, the *Ductus Pancreaticus*, with its Acid Juice, and many other useful Inventions, by their diligent Scrutiny and Autopsy. But our Discourse is to be limited to the Humane Body, having chosen Man to be the sole Subject of this Treatise. The Body of Man therefore, as it is a *Totum Quantitativum seu Integrale*, is divided by *Galen* and *Hypocrates* into *Continentia*, *Contenta*, & *Impetum Facientia*; that is, into Solid Parts, Humours, and Spirits. The Body of Man may also be divided either *Ratione Finis* or *Ratione Materiæ*. *Ratione Finis*. They are either Principal Parts, or less Principal Parts: The Principal Parts are the Liver, the Heart, and the Brain; and the Vulgarly received Opinion is,

The Division of the Parts of Mans Body.

The Principal Parts.

is, That the Veins have their Origin from the Liver, the Arteries from the Heart, and the Nerves from the Brain; which they say are the Vessels that convey the Natural, Vital, and Animal Spirits thro the Body.

The less Principal Parts, are either necessary, which are those without which an Animal cannot live, as the Lungs, the Ventricle, the Intestines, the *Vesicula Bilaria*, the *Porus Bilarius*, the *Vesica Urinaria*, &c. Or not necessary, as *Caro Simplex*, in respect of the other Parts: *The less Principal parts.*

Ratione Materiæ, the Parts are either Simple, Homogeneous, and Simular; or Compound, Heterogeneous, and Dissimular.

The Simular Parts are Ten. The Bones, the Cartilages, the Ligaments, the Membranes, the Fibres, the Nerves, the Arteries, the Veins, the Flesh, and the *Cutis*. The Dissimular Parts are the Members of the Body, consisting of various Simular Parts. They are also called *Partes Organicæ seu Instrumentales*. But the Modern and most Rational *The Simular.* *The Dissimular.*

The Division of the Body into its Three Venters and Four Artus.

Division of the Body is into its Venters and Artus. The Venters are Three, the *Infimus*, the lower Venter, or the *Abdomen*, which contains the Liver and the Natural Parts, the *Medius Venter*, or the *Thorax*, which contains the Heart and Vital Parts; the *Venter Supremus*, or the Head, wherein is contained the Brain and Animal Parts.

The Lower Venter its parts.

Having given the Division of the whole Body, we shall now begin with the Lower Venter; and this is all that Cavity, which within is distinguished from the *Thorax*, by the Diaphragm, circumscribed by the *Cartilago Ensiformis*, the *Os Pubis*, *Coxendicis*, and the *Os Sacrum*, the *Vertebræ* of the Loins, and on both sides by the Bastard Ribs; the Fore-part of this is called *Epigastrium*, the Lateral superior Part of which is called *Hypocondrium*, which is next to the Inferior Cartilage of the *Costæ*.

The Middle is *Regio Umbilicalis*, the two lateral Parts of which *Aristotle* calls Λαγόνας, *a Laxitate*; and *Galen*

Galen Κατὰ τὰ *Inania.* The Lower Part is *Hypogaſtrium*, which deſcends from the *Regio Umbilicalis* down to the *Regio Pubis*, the Lateral Parts of which are called *Ilia*, and in *Flexu Femoris ad Pubem Inguina*, or the Groin.

Now this Venter conſiſts of Exterior and Interior Parts.

The Exterior or Continent Parts, are either Common, which belong alſo to other Parts of the Body, as the *Cuticula*, the *Cutis*, the *Pinguedo*, with its Membrane, the *Panniculus Carnoſus* and the *Membrana Muſculorum propria*; or Proper only to this Venter, as the Muſcles of the *Abdomen* and the *Peritonæum*.

The *Interior* or Contained, are thoſe that ſerve either for Nutrition or for Procreation.

Thoſe that ſerve for Nutrition, belong either *ad* Κύλωσιν to Chyliſication, as the Ventricle, the *Omentum*, the *Pancreas*, the Inteſtines, with the Meſentery, the Lacteal Veins, with the Common Receptacle and the Lymphatic Veſſels; or *ad* Αἱμάτωσιν to Sanguification, as

the Meseraic Veins, the *Vena Porta* with its branches, and the *Vena Cava*, the Liver, the *Vesicula Bilaria*, the Spleen, with the *Vas Breve* and the Hemorrhoids, the *Arteria Celiaca*, the Veins, the *Capsula Atrabilariæ*, the Ureters and the Bladder.

Those that serve for Generation are *Vasa Spermatica*, the *Corpora Varicosa* or *Parastatæ*, the *Testes*, the *Vasa Deferentia*, the *Prostatæ*, the *Vesiculæ Seminariæ* and the *Penis*, in Women the *Vasa Ejaculatoria* and the *Uterus*.

(1) Having thus divided the Lower Venter, we come now to speak of each of its parts in particular; and the first is the *Cuticula* ἐπιδερμὶς, this is a thin and close Skin, void of Life and Sense, without Blood, made of unctious, crass, and viscid Vapours, condensed by the Circumambient Cold, to cover the *Cutis*, it is thicker than the *Cutis*, least there should be too great an efflux of Spirits and Heat; it is generated of an Excrement that hath its beginning in the Womb, and afterwards its perfection

The Cuticula.

on, and this is the reason why Infants newly born look so red as they commonly do. In Moors and Æthiopians it is black.

Next to this is the *Cutis*, which is the Common Covering of the Body, generated of Seed and Blood, the Instrument of Touching and the Defence of the Parts that are under it; it is perforated in various places, for the ingress and egress of that which is necessary; those Perforations that are conspicuous, are the Mouth, the Ears, *&c.* The Insensible are the Pores, in this there are observed several Nervous Filaments, which Learned *Carteſius* calls the Organs of Sense, which being moved by External Objects, do accordingly make an Impression upon the Brain. *The* Cutis. Cartes de Homine.

Under the *Cutis* is subjected the *Pinguedo* or Fat, which is a Simular Body without Sense, made of unxious Blood concreted by the Cold of the Membranes for the defence of the whole; it is not in those parts where it would hinder a convenient complication, as in the Brain, the *The* Pinguedo, *or* Fat.

Palpebræ, the *Penis*, the *Scrotum* and the *Teſtium Membranæ*; its Veſſels are the three Veins of the *Abdomen*, the Mamillary Veins, the *Venæ Epigaſtricæ & e lumbis emergentes*, its uſe is like a Garment, to keep the Body warm, to fill up the ſpaces between the Muſcles, the Veſſels and the Skin, to make the Body even, ſmooth, and round; hence Lean Perſons, Old, and Withered, are Deformed. Next is the *Membrana Carnoſa*, which is connexed to the *Cutis* by many Veins and Arteries: The *Membrana Muſculorum propria* is a thin Skin connexed to the Muſcles by ſmall Filaments, its uſe is to cover the Muſcles and ſeperate between them.

The Muſcles of the Belly. Next appear the Ten Muſcles of the Belly. A Muſcle is an Organic Part, conſiſting of divers ſmall Fibres, an Inſtrument of Motion, the beginning of a Muſcle is called a Ligament, the middle part is fleſhy, and the end is called a Tendon; every Muſcle is furniſhed with a Nerve. Of the Ten Muſcles of the

Ab-

Abdomen, two of them are obliquely descending, two obliquely ascending, two right, two transverse, and two pyramydal, thus nominated from the position and situation of their Fibres. Under these Muscles is the *Peritoneum*, which is a Membrane of an Oval Figure, investing the Bowels; it hath its Origin at the Spine, and the first *Vertebra* of the Loyns, its use is to contain the parts, and to shut the Orifices of the Veins; among the parts contained, there is first the *Omentum*, placed immediately under the *Peritoneum*, its use is to increase the heat of the Stomach; this being taken away, the Ventricle and Intestines appear. The Ventricle is an Organic Part situated immediately under the Diaphragm in the *Epigastrium*, it is the Instrument of Chylification; it hath two Orifices, the first is in the upper part of it, and is called the Stomach; this when the Food is taken in, remains shut, that so Fumes and Vapours may not fly up, and so disturb and molest the Head. The Low-

The Peritoneum.

The Omentum.

The Stomach.

Lower Orifice is called *Pylorus*, it remains shut till the Food assumed be concocted; it is also shut when we vomit. The Intestines or Guts have many *Anfractus* or Bendings, least the Aliment contained in them should pass away before a perfect Concoction be made; they have three Tunics and Fibres of all kinds, they are six in number, the *Duodenum*, the *Jejunum*, the *Cœcum*, the *Ileon*, the *Colon*, and the *Rectum*. The next Part we are to take notice of, is the Mesentery, in which are the Meseraic Veins and Arteries, the Lactean Veins, and several Glandules.

The Intestines.

The Pancreas.

Having taken off these Parts, the *Pancreas* or Sweet-bread, becomes apparent, and in it is the Pancreatic Duct and *Succus Pancreaticus*, found out by *Regnerus De-Graaf*, a late French Physician, who held this to be the Seat of Agues, or intermitting Feavers, that the Minera of that Distemper, which is called, *Opprobrium Medicorum, the Disgrace of the Physicians*, is there to be found, *viz.* When this Acid Liquor

The Cause of Agues.

quor is vitiated, and the Lateral Ducts of the *Pancreas* ſtopt, by ſome pituitous or flegmatic and viſcid Matter, there adhereing, cauſing hereby a ſtagnation of that Juice, and ſo a more violent effervence and tendency to a far greater and corroding Acidity. Thus much for the Organs of the firſt Concoction, which is Chylification. We come now to thoſe of the ſecond, *viz.* Sanguification, and among theſe the Liver was commonly reputed to be chief; this is ſituated on the right Side of the lower Venter, juſt under the Diaphragm; it is connected by three ſtrong Ligaments. Firſt to the *Abdomen*, by the *Vena Umbilicalis*, which in the adult waxes dry and degenerates into a Ligament. The Second to the Diaphragm on the right Side, by a broad thin Membraneous Ligament from the *Peritoneum*, which is called *Ligamentum Suſpenſorium*. The Third alſo to the Diaphragm on the left Side, by another round and ſtrong Ligament; its ſubſtance is red and ſoft,

Franciſ. De La Poe Sylvius.

The Liver its Figure and Connexion.

soft, like concreted Blood; hence it is called παρέγχυμα, Mans Liver is very like the Liver of an Oxe or Cow, and doth differ from it neither in consistence, colour, nor taste; whence our Flesh also is far more similar to the Flesh of those Animals than to the Flesh of Swine. It is from hence the Veins are said to derive their Origin, because the dispersed Roots of the two greatest Veins, *viz.* *Cava* and *Porta* seem to be fastened there; tho the Lactean are thought to arise from the *Pancreas*, and the *Vena Arteriosa* doth really proceed from the Heart: The true use of the Liver is not to be the Organ of Sanguification, as several Reasons and late Discoveries manifest, but as *Pecquet* saith, it doth percolate and secern the Bile from the Blood, as the Spleen doth an Acid Juice, and as the Reins the serose Part thereof. The manner how this is done, is well explained by Doctor Charleton in his *Oeconomia Animalis*; it also affords heat to the Stomach, to concoct the contained Aliment.

Its use to secern the Bile.

It

It doth likewiſe ſeperate from the Blood an aquoſe, or watry humour, by a kind of filtration.

It helps to concoct the *Lympha*, and impregnate it with a Volatile Salt and Acid Spirit, drawn forth out of the Nutriment; hence when this Part is evilly affected, a Dropſie will enſue. Dr. *Franciſcus De La Boe Sylvius* will have it not to ſeparate but joyn together Humours; not to ſecern, but to mix and unite; but this is no better than ficticious. On the right and concave part of the Liver, there are two Meatus's for the receiving the two ſorts of Bile, the *Veſicula Bilaria*, and the *Porus Bilarius*, the *Veſicula Bilaria*, *Folliculus Fellis*, or Κύστις χολάδοχος, is an Oblong Veſſel in the ſhape of a Pear; it hath two parts, *Fundus* and *Cervix*, it lies under the *Vena Porta*, receives the thinner Bile, and exonerates into the Inteſtines: This is the Balſom of the Blood, as *Helmont* calls it, and it is this that renders the Feces fluxible.

To concoct the Lympha, and impregnate it with a Volatile Salt, &c.

Its Dutts and Meatus's.

The *Porus Bilarius*, is an Oblong Veſſel

Vessel arising from the Liver, it is united with the *Meatus Systicus* into the *Ductus Communis*, this transfers the grosser and thicker part of the Bile.

The Spleen. In the left *Hypochondrium* is placed the Spleen; Insects want a Spleen, and those Creatures that have no Bladder; as a Chameleon and many others; and it is a false Assertion, *Habte & Musca Splenem.* It hath often been taken out of Dogs and Cats, without any great detriment to them, or peril of Life, for then the *Pancreas* supplies its defect: It hath many Fibres woven together, after a wonderful contexture, to confirm and strengthen the lax, spongy, and paremchymous substance of it, least it should be broken by the impulse of the Blood flowing from the Arteries; also, that hereby it may be able to contract it self, and compress the Blood that is in its lax Cavities into the *Vena Splenica*, and so help the Pulse of the Arteries. *Its use.* Its use is not to secern the Melancholy Humours from the Blood, as the Ancients held; neither is the Opinion of *Van Helmont*

mont probable, who destin'd it to more noble Actions; namely, to be the Seat of his *Archeus*, and the immediate Organ of the Sensitive Soul, and to determinate the Actions of the Vital Soul, resident in the Stomach, and so the Seat of the Intellect, in which Conceptions are formed of Sleep and Dreams, of Venery, and of divers Diseases; which to others are evident to be the effect of the Brain and the *Thorax*; as an *Astma*, a Plurisie, an Apoplexy, an Epilepsie, a *Vertigo*, and an *Incubus*. But the true Opinion of its use, is that of *Walæus*, grounded on Autopsy, and certain Reasons, which is, that it doth receive the more Acid part of the Blood, no otherwise than we see an Acid Spirit seperated from Things by a Chymic Distillation. This Acid Liquor (which you may, if you please, call *Melancholy*) is mingled with the Blood in its Vessels, and with the Chyle, to attenuate and make them more dilute; whence the Spleen being once obstructed, there doth presently ensue a coacervation of grosse Humours in the Body;

Helmont's Opinion false.

Walæus the Inventer of its true Function.

Body; not because these Crass Humours are not drawn from the Blood by the Spleen, but because the Spleen cannot communicate that attenuating Acid Liquor to the Blood and Chyle; what of this Acid Liquor is unprofitable for Nutrition, is excerned by Urine. We come now to the Reins or Kidneys, They have their Situation under the Liver and Spleen, near the Spine, upon the Muscles of the Loins; they have two Caruncles like Glandules, thro which the Serum of the Blood is cribrated, and two Venters, one at the end of the Emulgent Veins, and another at the Origin of the Ureters; its use is to seperate the serost part of the Blood, and evacuate it thro the Ureters into the Bladder, and thence thro the *Meatus Urinarius*. To the exterior Membranes of the Reins, do adhere two small Vessels, called, *Capsulæ Atrabilariæ*; these receives crass, excrementitious, and bilost Humour, seperated from the Blood, either by the Liver, Heart, or Spleen;

The Reins.

The use of the Capsulæ Atrabilariæ.

Spleen; but more especially, that which is elaborated in the Spleen, and is here reconded, being not able to penetrate the angust Passages of the Reins. Hence Urines do look black, when these Vessels are too replete; where often is the Seat of some Morbific Cause, especially in Melancholy Effects. The Ureters are long Vessels or Channels, arising from the Reins, implanted into the Bladder; they are commonly two in number. *Riolan* relates he saw two on each side of a Woman, that had the Venereal Distemper. *Solomon Albertus* takes notice of one that had three on one side and but one on the other. I my self saw a Woman opened at St. *Thomas's Hospital*, who had two Ureters on one Side, having two distinct Originations in the Kidneys, and were also in two distinct places inserted into the Bladder, one in the Neck of it, and the other in the *Fundus*; these are often obstructed by Stones and Gravel, and very acute Pains are hereby created. The Bladder or *Vesica* der.

The Ureters.

The Bladder.

Vesica Urinaria, is situated in the *Hypogastrium*, between the two Tunics of the *Peritonæum*, in that Cavity that is made by the *Os Sacrum*, *Coxendicis* and *Pubis*, as in a proper Venter and seperate *Abdomen*; it hath a Constrictive orbicular Muscle in the Neck of it, called *Sphincter*, which hinders the involuntary emission of Urine, *Borrichius* observed of the Bladder, this curiosity, That if it be boiled in Acid Things, it presently turns to a Mucilage or Jelly; if in Salt Things it is incrassated; in Oleaginous Things, as also in Liquors that have an Alkali in them, as Salt of Tartar, or incinerated Herbs, it is neither incrassated, nor turned to a Mucilage; but is burnt up as if it were laid upon live Coals, and quickly is worn to Power; from which it is apparent with how much peril to the Bladder, either Acid Salt or Oleaginous Things are injected to dissolve or break the Stone. We should now come to the Spermatic Vessels, and the Organs of Generation,

An experiment touching the Coction of a Humane Bladder, with some Liquors.

The Vessels and Organs of Genera-

peration, but modesty will not permit me to expose them to the captious and ignorant Vulgar in their Native Language; thinking it no way convenient that those empty Heads that have not arrived to that small degree of Literature, as to read a Latine or Greek Author, should in their Mother Tongue have a prospect of those Things which both Nature and Reason endeavour to conceal from such shallow brain'd Medicastors; I mean those Pretenders, who stile themselves the Sons of Art; and make their brags that they have ascended to the very top and *acme* of this Noble Faculty; when alas no Name becomes them so well as *Quacks* and *Emperics*, who have pickt a few blind *Recipe's* out of some silly pedantic Translation, such forsooth as *Culpepper*, that Stargazing Astrologic Coxe-comb, who laughs at Learning, derides the Works of all the Grave and Learned Men, and Nick-names our ablest Physicians, or * *Gideon Harvey*, that conceited Emperic,

tion; why we emit insisting on them.

* *The Author of,* Little Venus Unmasked, *or* the Pocky Doctor. *See his Re-*

or

flections on several of the worthy Members of the College of Physicians, in the Lord Moons *Case.*

or that illiterate Pseudochymist, the Author of *Medela Medicina.* But I shall refer the intelligent Reader to the Learned Treatise of *De Graaf de Organis Virorum & Mulierum.*

The middle Venter or the Thorax.

We come then now to the Middle Region of this Microcosm, the middle Venter or Cavity, which is called the *Thorax* or Breast: this is all that Cavity that is circumscrib'd above by the Clavicles, below by the Diaphragm, before by the *Sternum*, and on both Sides by the Ribs; as the lower Venter contains the Natural Parts, so this contains the Vital. The Parts of this are either the Containing or the Contained, and these are either Common or Proper; the Commons are the same with those of the Lower Venter; the Proper Parts are the *Mammæ* Papps or Breasts, the Diaphragm, the *Pleura* and the *Mediastinum.* The Contained are the *Viscera* and *Vasa*; the *Viscera* are the Heart with the *Pericardium*, the Lungs and part of the *Aspera Arteria.* This Venter hath 44 Muscles,

to

to guard and defend it, and to dilate and contract the Breast, 22 on each side, of which 11 are external, 11 internal.

The Breasts and their Parts.

The *Mamma* or Breasts, are placed in the middle of the *Thorax*, under the Pectoral Muscle, both for their vicinity, and nearness to the Heart, that Fountain of Heat; for the convenience of giving Suck, and for the adding to the Beauty and Pulchritude of the Body. I speak of the *Mamma* of the Female Sex, they are scarce perceptible in those that are young, but when the Natural Heat of the Body hath obtained a due augmentation and begins to invigorate the Parts of the Body, then these begin to tumify at the same time when the Menstruums begin to flow: In Old Women they grow flaccid and nothing apparent but the very Nipple, the Fat and Glandules being all consumed. The parts of this are the *Papilla* and the *Mamilla*; the *Papilla* is an extuberance in the Center of it, called the Nipple, the ends of the Nerves and Arteries

do

do concenter in it; which is apparent from its exquisite Sense and Red Colour: Hence it is compared to the *Glans* of the *Penis*, for it may be erected by Contact and Suction; and doth afterwards become flaccid. Cancers, and other Tumors about this part, by *Chyrurgeons* are determined to be pernicious. *Hyppocrates* tells us, That if in a Woman with-child, her Nipples turn upwards it is a Male, if downwards a Female, that she bears, but the confession of Women hath not yet confirmed it: It hath a Circle round about it, called *Areola*, which in Virgins is of a pale Colour, in those that are big and give Suck brown; in Old Women black. It hath many little perforations in the middle, for the Milk to come forth; its use is to enter the Mouth of the Infant, that it might suck: There is also a titillation in it, whereby Mothers and Nurses, by a pleasing kind of tickling, and some sense of pleasure, are inticed to exhibit their Breasts to the Infant.

The

The *Mamilla* is all that part beſide the Nipple that ſwelleth and riſeth above the circumjacent; it hath many Glandules, which in Virgins are more hard; in thoſe that are big and give Suck, they are more ſwelled; their uſe is for the preparation of Milk, there is a great conſent between theſe and the Womb; hence as ſoon as ever the Infant is Born, the Blood is no longer carried to the Womb, but to the Breaſts, and thence Milk is generated; hence thoſe that give Suck have very ſeldom their Monthly Terms; and ſometimes the Children draw forth Blood inſtead of Milk; yea, which is matter of greatter admiration, the Menſtruous Blood ſometimes hath been obſerved to come from the Breaſts, and Milk carried thro the Womb, and thence evacuated: How Milk is generated, it is not eaſy to determine, and I will not ſtay here to debate the Controverſy; whether it is carried with the Blood by the Thoracic Arteries, and ſecern'd there-from by the Glandules of the *Mamma*, or whether the Chyle

Some Conjectures how Milk is generated.

Chyle aſcends to the Breaſt thro the Milky Veins from the Meſentery, or whether, as the Learned Dr. *Wharton* thought, a peculiar Juice drawn from the Nerves, and added to the Chyle, doth make Milk. The uſe of the *Mamma* firſt is to be a defence to the Heart, hence Men of a Colder and more Effeminate Conſtitution, have great Breaſts, and Women that are almoſt deſtitute of them, have Manlike Voices: Secondly, They ſerve for the Generation, Segregation, or Depuration of the Milk for the Nutrition of the Infant: Thirdly, For the Adorning and Beautifying the Body.

The Diaphragm. The *Diaphragm* is the partition between the Lower and Middle Ventors, it is a ſingular Muſcle of a different Figure and Action from all the reſt; its Situation is tranſverſe, and ſomething oblique, declining downwards; its Figure is circular, its ſubſtance fleſhy, but in the middle nervous and membranous; for the Center appears to be a thin Skin and a nervous Circle

inſtead

inſtead of a Tendon; if this be wounded, Death enſues. The uſe of this is to cauſe a free reſpiration, to help the Muſcles of the *Abdomen* in the expulſion of Excrements and the Fœtus, to promote the diſtribution of the Chyle, to diſtinguiſh the Vital Parts from the Natural; to which ſome add that this is the Seat of Laughter, becauſe the Nerves of the *Diaphragm* have ſeveral ramifications in the Muſcles of the Lips and the Cheeks; hence in the percuſſion of that part, the Muſcles of the Face being contracted, and Lips with the Cheeks moved, Laughter ariſeth; but this is not true Laughter, but only that which is called *Riſus Sardonius*: for the Spleen is the proper Seat of Laughter, according to that Diſtich:

The Cauſe of Sardonian Laughter.

Cor ardet, Pulmo loquitur, Fel commovet Iras,

Splen videre facit, cogit amare Jecur.

The Heart doth burn, the Lungs do speak, the Gall doth Anger move,

The Spleen doth laugh, the Liver stirs up Love.

Hence Melancholy and Splenetic Persons are more prone to laugh than others.

In the fore-part of the Chest is the *Sternum*, at the end of which is the sharp pointed Cartilage, called *Cartilago Ensiformis*, and on both sides are placed the Ribs, which are commonly twelve on each side. *Melancton* saith that *Adam* had thirteen; but it is greatly to be question'd. *Fallopius* saith he saw two several times thirteen, and *Riolan* once. The upper seven are called *Veræ*, true Ribs, because they reach the *Sternum*; the five lower ones are called *Nothæ*, or Bastard Ribs, because of their shortness.

The Ribs.

The Pleura *the Seat of the Pleurisie.*

The *Pleura* is a thin Skin investing the inward parts of the Middle Region, as the *Peritoneum* doth the Lower; this is that part that is affected in the *Pleurisie*, tho Late Writers demonstrate

monſtrate that the effect of this part doth only ſecondarily happen in that Peracute Diſtemper.

The *Mediaſtinum* is a Skin of the ſame kind, dividing the Cavity of the *Thorax* and the Lungs into two diſtinct parts. To this is joyned the *Thymus* in the Throat or upper part of the *Thorax*, between the diviſion of the Subclavian Veins and the Arteries; this is of a glandulous, ſpongy, ſoft, and white Subſtance in Children newly born it is diſtinguiſht by a three-fold and large Glandule, but in the adult it is extenuated by heat for want of moiſture: Its uſe is to be a prop to the Veſſels that aſcend by it, *viz.* the *Vena Cava*, the great Artery, and their branches ſpreading into the Arms and *Scapula*, and to defend them leſt they ſhould be hurt by attaching the Bone. The *Pericardium*, otherwiſe the Chamber Cheſt, or Pannicle of the Heart, is a Membrane incompaſſing the whole Heart; ſo far diſtant from it as may ſuffice for its motion, and the containing that Liquor which is found *The* Mediaſtinum. *The* Pericardium.

within its cavity. Its use is to be the Domicil of the Heart, and to contain in it a Whey and Watery Liquor, not unlike Urine, to moisten and refrigerate the Heart, and so render its motion more facil: This is that Liquor that came forth out of the Side of our Blessed Savior; when pierced, mixed with Blood; for it is said, *Out of his Side came forth Water* and *Blood*.

Whence proceeded that Water that issued out of our Saviours side.

The Heart. It is not situated in the left side as some imagine.

The Heart is one of the principal Parts of an Animal, the Fountain of Life; it is situated in the middle of the Body, that so the Blood and Spirits might fitly be distributed thro the whole Body; it is of every side encompassed by the Lungs, yet its Motion is perceived most on the left Side.

The reason why it beats more on the left side, than on the right.

1st Because the great Artery is on that Side, and the Cavity of the left Ventricle far exceeds that of the right, and in this the Vital Spirit is contained: Hence it is vulgarly reputed, altho erroneously, That the Heart hath its residence on the left Side, and some Practitioners apply Cordial Epithems only to the left Side. 2dly, The

2dly, The *Vena Cava* being on the right Side, and there aſcending thro the *Thorax*, the Heart cannot conveniently decline that way. It is of a Conic Figure, the upper part is called the *Baſis* or *Radix* of it, the lower *Mucro*, *Vertex*, *Apex*, or the Cone of the Heart; its primary Action is to be the Fountain of Heat: this is manifeſt by that Diſeaſe called a *Syncope* and other defects of the Heart, where its Heat is intercepted: for then the Members of the Body deſtitute, do faint and loſe their brisk Activity, wherewith they were before actuated. Hence Cordials profit in ſuch Affects; by exciting the almoſt extinguiſht Heat; and ſtirring up the drooping Spirits; this Heat is not cauſed only by the Motion of the Heart, as the *Carteſians* ſay it is; for there is implanted Heat in the Heart, before its Motion, and Motion is only the Preſerver, and not the Producer of Heat in the Heart: but this Heat is excited by an Ebullition, whereby the Blood dilating it ſelf, requires a more

How Cordials help the Heart in Syncope's.

ample space; and so breaks forth, just as the mixture of Lime and Water produces an Ebullition; and Flower of Brimstone mingled with Spirit of Turpetine; and Salt of Tartar with *Aqua fortis* causes a great Fervescency. 3dly. Another great use of the Heart, is to turn Chyle into Blood, to be the Organ of Sanguification, and to perfect and renew the depauperated Blood, that returns in the Veins in its Circulation. Another use of it, is to move continually: Hence it keeps the Blood from Putrefaction, makes it more elaborate, kindles that Vital Flame that's in it, and disperses it as a Nutriment adapted to every part.

The Pulse. This Motion is called the Pulse, which is continual and never ceasing, stirred up by the Blood flowing into it, and the Pulsive Faculty resident therein; this consists of *Systole*, *Diastole*, and *Perisystole*. *Systole* the proper and natural motion of the Heart, is a Contraction of it into a narrow compass, that so the contained Blood might be forc'd from the

Its Systole, Diastole, *and* Perisystole.

the right Ventricle thro the Arterial Vein into the Lungs, and from the left thro the *Arteria Aorta* into the whole Body. The *Diastole*, which is Accidentary, and not so properly called a Motion as the *Systole*, because it is a Passion rather than an Action; is a Dilatation of the Heart, that it might draw in the Blood thro the *Vena Cava* into the right Ventricle, and thro the *Arteria Venosa* into the left.

Perisystole is the space of rest between the two preceding Motions.

In every *Systole* the Heart doth plentifully receive the Blood, and in every *Diastole* it plentifully expels it.

After Dr. *Harvey* had found out the Circulation of the Blood, laying down such evident and infallible Demonstrations as compell'd all to believe it, yet many ignorant of the Fabric and Motion of the Heart, thought that a few Drops, a Scruple or a Dram at the most of Blood, was thrown out of the Heart at every Pulse, and so ima-

gined that the Mass of Blood in the Body is many hours, yea some days, circulating thro the Body. Yet I must acknowledg my Self to be a Proselyte of that Learned and Famous Physician Dr. *Lower*, who hath wrote an Excellent Book of the Heart, and also of Exquisite Dr. *Charleton*, the Author of *Oeconomia Animalis*, That the whole Mass of Blood, doth not only once or twice, but very often pass thro the Heart in the space of an hour. For if we compute how much Blood flows into the Ventricles of the Heart when it is dilated, how much emptied out of it when it is contracted, how many Pulses there are in an hour, how much Blood there is contained in the whole Body, we shall easily evince this Assertion; for by Autopsy it appears, and by the experience and testimony of *Renowned Harvey*, that in a Healthful Man the left Ventricle of the Heart will at once contain two Ounces, and so much is thrown out at every *Systole*; and that there are Two thousand Pulses in the space

Dr. Lower De Corde.

The Circulation of the Blood.

ſpace of an hour, which is the leaſt Computation of all; for *Walæus* and *Regius*, have numbred Three thouſand, and in ſome Four thouſand, *Plempius* 4150, *Slegelius* 4876, *Rolfincius* 4420, and *Bartholine* on his own Writ 4400. tho theſe differ according to the Age, Temperament and Diet, *&c.* And ſuppoſe that in a Man there are Twenty five Pounds of Blood, which is a greater quantity than is granted either by Nature or Anatomiſts; for the quantity of Blood contained in a Humane Body, ſeldom exceeds Twenty five pound, and is ſeldom under Fifteen: If we ſuppoſe two Ounces of Blood received and thrown out at every Pulſe, and Two thouſand Pulſes in an hour, the number of Ounces that paſs thro the Heart in that ſpace, make up Three hundred thirty two pound: Hence it neceſſarily follows, that the whole Maſs of Blood circulates thro the Body thirteen times every hour; but ſeeing ſo great a quantity of Blood is ſeldom found in the Body of a ſound Man, and

How often the Blood circulates thro the Body in an hour.

Vid. *Dr.* Lower de Corde.

and so few pulses in the space of an hour, it is very congruous to reason that the Blood passes thro the Heart more than Thirteen Times in an hour.

At the Basis of the Heart there are two Processes called *Auriculæ*, their use is to receive the Blood and Air, least it suddenly rush into the Heart and cause a Suffocation; there are also on both sides two large Cavities, which are called the Ventricles of the Heart, of which the right receives the Blood from the *Vena Cava* to supply the Lungs and sends it into the left Ventricle, to make the Vital Spirit and Arterial Blood of that Blood prepared in the right Ventricle and transmitted thro the *Septum* and the Lungs, and of the Air drawn in thro the Mouth and Nostrils prepared in the Lungs and sent thro the *Arteria Venosa* with the Blood into the left Ventricle of the Heart. The use of both these Ventricles is to generate and perfect the Arterial Blood, to receive the Venal Blood, make it more perfect, and expel it thro the

Arteries

Arteries into the extreme parts of the Body, and that they may thereby be nouriſh'd. Between theſe two Ventricles there is an *Interſtitium* or Partition, called *Septum*; it hath ſeveral Meanders, Caverns, Windings and Perforations in it, to admit the thinner part of the Blood from the right into the left Ventricle of the Heart.

The Veſſels belonging to the Heart.

The Heart hath many Veſſels, the chief are the *Vena Cava*, and the *Vena Arterioſa* inſerted in the right Ventricle, and the *Arteria Venoſa* and *Arteria Magna* in the left Ventricle; oppoſite to which, within the Ventricles, there are eleven Valves or little Doors, which when they are open receive the Blood, when ſhut, ſtop it from coming back again. The *Vena Cava* hath a membraneous Circle at its Orifice to ſtrengthen the Heart, which is divided into three membraneous Valves; called, *Tricuſpides.* The *Vena Arterioſa*, alſo hath three Valves, which united, give the ſimilitude of a Biſhops Mitre. The *Arteria Magna*, likewiſe

wiſe hath three Valves, like thoſe in the *Vena Arterioſa* exactly ſhut, called alſo *Sigmoides*.

The Lungs, The Lungs are divided into the right and left part by the *Mediaſtinum*, that ſo when one part is ſhut, the other might perform its Office; both theſe parts are ſubdivided into two Lobes about the fourth *Vertebra* of the *Thorax*, the upper of which is ſhorter than the lower; their ſubſtance is lax, ſpongy, and ſoft, that they may eaſily be extended and receive the Air.

Their uſe. Their uſe is to ventulate and refrigerate the Heart, and free it from that fuliginous excrement which it carries off with the Blood, thro the *Vena Arterioſa*; it exhibits Breath to Men to make an articulate Voice, and to Brutes to make an inarticulate one: *Sylvius* addeth, that it condenſeth the Air taken in, and ſo repreſſeth the rarified Blood in the right Ventricle of the Heart, and ſo hereby doth allay the æſtuation that is excited in it; but this is as much as to ſay, the Air taken in doth temperate the heat of the Heart,

Heart, which is no more than hath been acknowledged by *Sylvius*'s Predeceſſors. *Pecquet* will have its uſe to be to diſtribute the Chyle and detrude it into the Inteſtines and Lactean Veins; but Dr. *Henſhaw*, no contemptible Author, a Member of the Royal Society, ſaith, That the principle uſe of reſpiration is, to be inſtead of a tonic Motion to free the Lungs from Blood, whereby they would be overflown, did they not drive it back again to the Heart, as the tonic Motion doth in all the muſcular parts of the Body. *Dr.* Henſhaw's Aero-Chalinos.

The *Fiſtula Pulmonum*, *Aſpera Arteria*, *Trachæa*, or Wind-pipe, is carried ſtreight from the Mouth to the Lungs thro the Neck, and at the fourth *Vertebra* of the *Thorax*, is divided into two parts, both of which enter into the Lungs; thoſe are alſo ſubdivided into two more, and theſe again into two others, till at laſt, at the ſuperfice of the Lungs, they end in very ſmall ramifications. The lower part of the *Aſpera Arteria* is called *Bronchus*, the upper *The* Aſpera Arteria.

upper *Larynx*; it is invested with a two-fold Membrane, the one External the other Internal; it serves both for Inspiration and Expiration, to receive and let out the Air as thro a Pipe.

The Larynx, its Muscles. The *Larynx*, or the Head of this, is the proper instrument of Voice, its Figure is almost circular; it hath thirteen Muscles, four common and nine proper. The first pair of the common is called *Sternothyroides* from the *Sternum*, the second pair *Hyothyroides*, which hath its Origination from the *Os Hyoidis*, the first pair of the proper is called *Crycothyroides*, or rather *Thyrocricoides*. The second pair *Crycoaritenoides posticum*. The third pair *Ctycoaritenoidis laterale*, the fourth pair *Thyroarytenoides*; and the ninth Muscle *Arytenoides*; the Cartilages of the *Larynx* are five, the first is called Θυρεοειδης, or *Scutiformis*, the second Κρικοειδης, or *Annularis*, because it is round like a Ring; the third and fourth, which some make but one, is called Αρυταινοειδης or *Guttalis*; it hath two processes in its superior part,

part, which joyned together make a little *Rimula* to modulate the Voice, which by ſome is called the little Tongue or *Glottis*; the fifth is called *Epiglottis*, which ſhuts the *Larynx*, that ſo the Meat and Drink may deſcend the right way: In the upper part of the *Larynx* there are two Glandules called the Tonſils, which are of a ſpongy ſubſtance to receive the moiſture of the Brain and convert it into Spittle; whereby the *Fauces*, the *Larynx*, the Tongue and the *Oeſophagus* are humected: Dr. *Wharton* aſſigns more noble uſes to them, *viz.* To be the Organs of Taſte, and to promote the Concoction of the Ventricle, by a kind of fermentative Vertue, becauſe they contract Acidity; but the Tip of the Tongue taſtes before guſtible Objects reach the Tonſils, and when theſe are evilly affected the Taſte remains alſo, when theſe are inflamed the Stomach nevertheleſs doth concoct. At the lower end of the *Larynx* there are other Glandules, called by Dr. *Wharton* *Thyroides*, on both ſides one, thro which

The Tonſils.

which the Veins are disseminated from the extern jugular; their use is to irrigate the *Larynx*, with a fat and viscous, not fluid Humidity, that the Cartilages might be more apt to move; and the Voice become sweeter; Hence Women have a clearer Voice than Men, because in them those Glandules are larger, and so afford more of this oleaginous and smooth moisture: As the *Aspera Arteria* is the Pipe of the Lungs, so the *Oesophagus* is the Pipe of the Ventricle or Stomach; its beginning is at the Mouth, where it is called *Pharynx*; and hence it descends streight to the Ventricle under the Wind-pipe, it consists of three Tunics, it hath four Muscles, the first is called *Oesaphagus*, the second *Sphenopharyngeus*, the third *Stylopharyngeus*, the fourth *Cephalopharyngeus*; by these Muscles is perform'd Deglution or Swallowing, which is the proper Act of the *Oesophagus*.

Why Women have clearer Voices than Men.

The Neck.

An appendix to the middle Venter is the Neck, which is a *medium* between the *Thorax* and the Head, its

its use is to serve the *Oesophagus*, the Wind-pipe and the Lungs: Hence those Animals which want Lungs as Fish, also want a Neck; it also affords Nerves to the fore-parts, as the Shoulders, the Cubits, the Hands, and the *Diaphragm*; for those Creatures that want these Parts have no Neck. Thus we have briefly delineated the parts of the two lower Regions of the Body, namely, the *Abdomen* and the *Thorax*; we come now to view the upper which is the Head.

The upper Venter, or the Head its Division.

It is divided into two parts *Capillata* and *Facies*; *Capillata* is that part upon which Hairs do grow, the fore part of which is called *Synciput*, from the *Frons* to the *Coronal Suture*; the hinder Part is called *Occiput*, from the beginning of the *Sutura Lambdoides* to the first *Vertebra* of the Neck; the middle Part between these which is Gibbose is called *Vertex*, the lateral Parts between the Eyes and the Ears are called *Tempora*, the Temples; the superior part of the Face is

is called *Frons*. The Inferior Parts are the Eyes; the Nose, the Ears and the Mouth, in which is contained the Tongue and other Parts.

The Pericranium *and* Periostium.

We shall begin with the *Pars Capillata*, or hairy Part of this *Venter*, the extern Membranes of this are two, the *Pericranium* and the *Periostium*, which encompass the *Cranium*. The inward Membranes, which enclose the Brain under the *Cranium*, are the *Dura Mater* and the *Pia Mater*; the *Dura Mater*, or *Crassa Menynx*, divides the *Cerebrum* from the *Cerebellum*, and the Brain into its right and left Parts, and so constitutes four *Sinus's* or Ventricles, the receptacles of Blood and Spirits; besides these four *Sinus's* there are three more, one at the bottom of the *Calx* the other two lateral ones. Their use is to receive the Arterial Blood, which is superfluous in the Nutrition of the Brain, and the generation of Animal Spirits; and from these proceeds that Blood that is evacuated at the Nostrils.

The Dura Mater *and* Pia Mater.

The Ventricles of the Brain.

The

The outward part of the Brain is called *Cortex*, the inward *Medulla*. The *Cortex* is ſoft but of on Aſh Colour, which ſome think ariſeth from the innumerable Veins there diſſeminated; the *Medulla* is more hard and compact of a white Colour; it hath two Parts, the one Globoſe, which hath three Cavities or Ventricles, the other Oblong, called *Medulla Oblongata*, where is the fourth Ventricle, in which the Animal Spirits are generated; and here is the Origen of all the Nerves; as this Part deſcends down to the Spine, ſo it is called, *Medulla Spinalis*.

The Motion of the Brain, conſiſting of a Syſtole and Diaſtole.

The Brain is obſerved by ſome to have a Motion conſiſting of a *Syſtole* and *Diaſtole*, in its *Diaſtole* or Dilatation it draws in the Vital Spirits, with the Arterial Blood and Air thro the Noſtrils: In its *Syſtole* or Contraction, it forceth the Animal Spirits, therein elaborated, into the Nerves.

The *Cerebellum* hath the ſame Subſtance, Colour, Motion, and Uſe, with the *Cerebrum*, only it hath ſeveral circular Gyrations in

in an exact Order, which the *Cerebrum* hath not; it hath two Processes, called, *Processus vermi-formes*, whose use is, that the *Calamus Scriptorius*, being press'd by the *Cerebellum*, might not be obstructed thereby.

The other Parts observed in the Brain, are the *Rete Mirabile*, the *Glandula Pituitaria*, the *Infundibulum*, the *Corpus Callosum*, the *Fornix*, the *Plexus Choroides*, the *Glandula Pinealis*, &c.

The *Rete Mirabile*, or *Plexus Retiformis*, is at the *Basis* of the *Cerebrum*; it consists of Carotid and Cervical Arteries, brought up from the Heart to the *Basis* of the Brain, and bring in them Blood and Vital Spirits to this *Rete*, for the first preparation of the Animal Spirits.

The Glandula Pituitaria. The *Glandula Pituitaria*, is of a harder and more compact Substance than other Glandules, it receives the Excrements of the Brain thro the *Infundibulum*, and throws them out upon the Palate.

The Infundibulum. The *Infundibulum* is an Orbicular Cavity, made of the *Pia-mater*; it hath

hath four little Channels, saith *Riolan*, which distil the flegmatic *Serum* thro their four *Foramina*, or little Perforations; it hath two Glandules or Protuberances of the Brain, thro which the *Infundibulum* receives the *Serum* from the Ventricles; they do also stop and impede the great Impulse of that Matter that is carried to the *Infundibulum*, least it should thereby be too much dilated or broken.

The *Corpus Callosum* is in the *Medulla* of the Brain, where its Substance is harder, and where the two anterior Ventricles make two Extuberances; it is distinguisht by a thin lax, and wrinkled Membrane, called, *Septum Lucidum*, because when extended and exposed to the Light it is Pellucid, the inferior white part of it, where the two Ventricles are joyn'd together is of a triangular Figure. *The* Corpus Callosum.

Between the first Ventricle and the *Fornix*, is formed the *Plexus Choroides*, its Contexture is of Veins and Arteries, its use is the same with the *Rete Mirabile*. *The* Plexus Choroides

The

The Glandula Pinealis *its use.*

The *Glandula Pinealis*, is a Glandule of a conic Figure, it is called by the Greeks Κωνάριον *Conarion*, by others the *Penis* of the Brain, its use is the same with that of the other Glandules, but especially to distribute the Vessels of the Brain.

Cartes and his Followers imagined the Soul to reside in this part of the Brain.

Cartesius and his Followers, *Regius*, *Hogelandus*, and *Meyssonierius*, say, that this Glandule being placed in the middle of the Ventricles, which are always distended with Spirits, doth receive the Motion of all Objects, and the Soul being placed here, doth by these Motions apprehend all sensible Species, or rather external *Idea's*, which proceed from the five Senses, and as it were in the Center of them, discerns them all; and then by the help of this it sends the Spirits to the Nerves, just as all things that are conspicuous in a large Field, are in their Order represented in a little Spheric Looking-glass. This therefore, according to *Cartes*, is the common Seat of Sense and Imagination; but because many of the *Cartesian* Sentiments of the Soul

contrary

contrary to our Hypotheſis depend upon the verity of this Aſſertion, I ſhall here take occaſion to manifeſt the falſity of it: For

Eight Reaſons why it cannot be the Seat of the Soul.

1. This is too exile and obſcure a Body to repreſent the Species of all things clearly, for the Species of one thing would impede and hinder the Species of another, it being of too ſmall a Magnitude, and therefore the *Carteſians* being conſcious of this, to make their Hypotheſis more plauſible, make it a great deal bigger in their Cutts and Pictures than really it is.

2. The Species of all the Senſes cannot arrive hither, becauſe the Nerves do not touch this Glandule.

3. It is ſituated in the place of Excrements, where they are excern'd thro the third and the two anterior Ventricles, and certainly here the Species would be greatly contaminated, which *Le Forge* a *Carteſian* is forc'd to grant.

4. There then would be a great Confuſion of different *Ideas* in this Corpuſcle, for the Species muſt remain

main there, otherwise there would be no Memory.

5. There is no Duct or Passage from this Glandule to the Nerves, neither any communion with the Nerves of the extern Senses.

6. This Glandule is bigger in those Animals, which the *Cartesians* will have to be void of reason.

7. It is sometimes found to be full of Sand and little Stones, without any hurt to the Reason; sometimes it is black and infected, how then can it be capable of performing such noble Operations.

8. There was never any propulsive Motion seen in it but only violent either of the whole Brain, its Concussion, or some extern Flatulencie; for it wants Muscles, those Organs of Motion, and it adheres firmly to the Brain; neither is it filled with Spirits, for it is not hollow, and those *Tubili Cerebri*, are imaginary things, invisible, and invented by them to defend their Hypothesis so fictitious and irrational, that the preceding Reasons may suffice to convince any judicious Person.

Having

Having done with the *Pars Capillata* of the Head, we come to the *Pars Glabra*, which is the Face; its upper part is called *Frons*, the Fore-head; the Skin of the Fore-head often moves, for it hath Muſcles, which *Platerus* calls *Muſculos Significativos*, becauſe they ſignifie the effect of the Mind; theſe move the *Supercilia* or Eye-brows, where they are thicker: Theſe Muſcles have ſtreight Fibres, and therefore they are not to be cut tranſverſly by Chirurgeons, leaſt the elevation of the Eye-brows be hindred, but upwards according to their Longitude. *The Fore-head and Eye-brows.*

The Eyes are the Inſtruments of Sight, made up of Humours, Tunics, Muſcles, and other Parts, they are two in Number, their Figure is round, ſomewat Oblong, like a Bulb, each of them having two Angles, called *Acanthi*; the one extern the other intern: The Parts are various, both in the Eye and about it, for ſome are without the Eye for Defence, as the *Palpebræ*, the *Cilia*, the *Supercilia*, and the *The Eyes.*

Caruncles in the corners of the Eye. The intern Caruncle, or *Punctum Lachrymale*, contains a Humidity to moisten the Eye; the extern is called *Caruncula innominata*, in the small Angle of the Eye, destin'd, according to Dr. *Wharton*, for the Expurgation of the Brain, and the *Succus Nutritius* of the Eyes: The Parts that constitute the Body of the Eyes, are the *Adeps*, the Muscles, the Vessels; the Membranes, and the Humours.

The *Adeps* or Fat of the Eye doth help to the Calefaction, Humectation, and more facile Motion of the Eyes, and to make them of equal Figure; the Muscles of a Humane Eye are six, because there are so many different Motions, four right and two circular.

Its Muscles. The first is called *Attolens* and *Superbus*, whereby we look upward.

The Second *Deprimens* and *Humilis*, whereby we look downward.

The Third *Adducens* and *Bibitorius*, which draws the Eye inwards towards the Nose.

The

The Fourth *Abducens* and *Indignatorius* this turns it outward, and causes that Aspect of Envy and Disdain.

The Fifth *Obliquus*, it turns the Eye obliquely downwards, towards the extern Angle.

The Sixth *Trocleatis*, which turns it round towards the inward Angle, found out by *Fallopius*.

The Vessels of the Eye are a Vein from the Jugular Arterie, from the Carotid Branches, Lymphatic Vessels, and two Nerves, one the Optic Nerve, the other *Oculi Motorius*.

The Tunics of the Eye are the *Adnata*, which *Hypocrates* calls the White of the Eye, it ends at the circle of the *Iris*, and is the outward-most of all, its joyns the Orbite of the Eye, to the interior Bones, like a Ligament, it hath exquisite Sense, it hath also Veins and Arteries dispersed about it, which are not conspicuous, but in an Efflux of Humours, when they swell and become exceeding Red, as in an *Opthalmia*, of which Effect *Its Tunics, with its Humours.*

this Tunic is the Seat. The next Tunic is called *Sclerotica*, the Fore-part of which is called *Cornea*, because of its horny Substance; next to this is the *Choroidis*, its Fore-part is called *Uvea*, perforated for the ingress of Species; the Limb or Border of this hath various Colours, whence it is called *Iris*, a Rain-bow: The third is *Retina*, or *Amphiblestroides*; it encompasses the *Humour Vitreus* and its Tunic; this farther is called *Aranea*, or *Christalloides*, the proper Tunic of the Christalline Humour.

The *Vitrea Tunica* contains the vitreous Humour, and seperates it from the chrystalline; the Humours of the Eyes are the watry, glassie, and chrystalline.

The Ears. The Ears are the Organs of Hearing, they are either extern or intern; the extern are called *Auricula*, they are of a semicircular Figure; the upper part of these is call'd *Pinna* or *Ala*, the lower *Lobus*, or the Lobe of the Ear; the outward Ambit of the Ear is called *Helix* or *Capreolus*, the inward

Scapha

Scapha or *Anthelix*, in the midst of it there is a large Cavity by the *Meatus Auditorius*, where that bitter and yellow Excrement is thrown out; it is called *Alvearium*: The *Auris Interna* hath several Parts contained in the *Os Petrosum*, as the *Tympanum*, the congenite Air, the Muscles and Vessels. In the *Concha* there are three little Bones, called *Malleus*, *Incus*, and *Stapes*, the Hammer, the Anvil and the Stirrop: These are the *Proxime* Organs of Hearing, which render the sound distinct.

The Nose is the Organ of the Olfactory Sense; this is also divided into the intern Part and extern Part, the intern Part hath Bones and Nerves with the Mamillary Processes. The Extern hath an upper Part which is called *Dorsum*, the Ridge of which is called *Spina*, and a lower part cartilaginous and moveable, called *Globulus Nasi*, the lateral Parts are called *πτέρυγα Pinna* or *Ala*; it is divided within by its *Septum* into two Nostrils, both which are divided about the *The Nose.*

middle into two Parts, the one ascends up to *Os Spongiosum*, the other above the Palate into the Jaws: Hence Drink sometimes flows out thro the Nostrils.

The cause of Sneezing. The Tunic about the Nostrils is from the *Dura Mater*, of an exquisite Sense, and hence when it is excited it causeth Sneezing.

The last part belonging to the Head, is the Organ of Taste, *viz.* The Tongue; but here we are first to consider, of the extern parts about the Mouth, and the intern within it: The extern are the *Pomum* or *Circulus Faciei*, under the Eyes between the Nose and the Ears, called also *Pudoris Sedes*; the part under this is called *Bucca*, the extern part of the upper Lip *Mystax* the cavity in the middle *Philtrum*.

The Mouth. The Mouth consists of parts partly bony, as the upper and lower Mandible, with the Teeth, and partly fleshy, as the Lips, the Muscles of the Lips, the *Bucca* and inferior Mandible: the intern parts contained in the Mouth are the

Gums,

Gums, the *Palate*, the *Uvula*, the *Fauces*, the *Os Gutturis*, or *Hyoidis*.

The Tongue is of a fleshly, lax, soft, and spongy substance, to receive in and imbibe Sapors; it is tyed down by a strong Ligament, which in very many Children newly born, doth so bind the Tongue, that it is a custom among Midwifes, tho a pernicious one, and in no wise to be permitted, to tear it asunder with their Nails, that it might not hinder their sucking and future speaking; but it ought to be done by a Chirurgic Instrument; it hath Veins and Arteries, and also Nerves, both motory and sensitive, and five pair of Muscles. *The Tongue its Ligament.* *A pernicious Custom among some Midwives.*

Thus we have endeavoured briefly to run over all the three *Venters*, we come now to the *Artus*, which are the Hands and Feet. *The Artus.*

A Hand in the signification of *Galen* and *Hypocrates*, is that part from the top of the Shoulders to the extremities of the Fingers, and is divided into the Arm and the Hands, strictly so called, or the *The Hand and its parts.*

extream Hand: The Arm is again divided into the *Humerus* or Shoulder and the *Cubitus*. The *Humerus* is that part from the top of the Shoulder to the Elbow, and the Cubit is from the flexure or bending of the Elbow to the Wrist; the extream Hand is divided into the *Carpus* or Wrist, which is that part between the Cubit and the Palm of the Hand; the *Metacarpus*, which is that part between the Wrist and the beginning of the Fingers, and the Fingers; the intern part of the *Metacarpus*, is called *Vola*, or the Palm of the Hand; the extern *Dorsum*, or the Back of the Hand, the Fingers are five, the first is called *Pollex* or the Thumb, the second *Index*, the third *Digitus Medius*, the fourth *Annularis*, the fifth *Auricularis*.

The Foot with its Parts.

The Foot is that part which reaches from the *Nates* to the extremities of the Toes; and just as the Hand it is divided into the *Femur*, the *Tibia*, and *Pes Parva*; the *Pes Parva* is also divided into *Pedius*, *Metapedius*, and the Toes:

Toes: As for the Muſcles of the *Artus*, I ſhall refer the Reader to thoſe that treat of them, as *Bartholine*, *Riolan* and *Spigelius*.

Having ended the Diviſions of the whole Body, there yet remain ſome other things that do reſpond both the *Venters* and the *Artus*, already treated on, and they are the Veins which ariſe from the Liver, and ſo anſwer to the lower Venter; the Arteries from the Heart, which anſwer to the middle Venter; the Nerves from the Head, which ſerve the upper Venter; and the Bones, which reſpond to the *Artus*. But I doubt I have been already too tedious in this Chapter, and therefore I ſhall at preſent omit them; and ſo, altho ſomething abruptly, end this Chapter.

CHAP.

CHAP. X.

Of the Humours, Temperaments, and Complexions.

HAving thus far done our endeavour in delineating in their proper Colours, those things we promised in the Front or Title Page of this Discourse, now those that remain do offer themselves in their proposed Order to our Consideration and Explication, and they are the Humours, Temperaments, Complexions, Sexes, and Ages, of Mankind; to begin with the first, we shall joyn three of them together; being terms almost of a Synonimous Signification, or at least their Explications very much depending one upon another; onely first in a prefatory way let me advertize or re-mind both my self and the ingenious Reader of the great usefulness and benefit of the knowledge

knowledge of them, that so I may be more diligent in performing my part, and the Reader hereby instigated to give greater attention to what is here exposed to his candid perusal.

The great use and benefit of the knowledge of the Temperaments

It is not enough to have an *Idea* in our Head of the solid parts of the Body, in order to a compleat knowledge of that Microcosm, but also it is very requisite to note the fluid parts; and truly the Anatomy of that which some call the Sanguine Liquor (I mean that fluid Substance continually circulating thro the Veins and Arteries, and purging it self thro its proper Emunctories, those Vessels destin'd for Secretion) is no less conducing to the defence of Humane Sanity, and the restoration of it when its lost, which is the only end aspired after by the generous Sons of *Æsculapius*, those standing Pillars and Columns of the Medicinal Faculty; those absolutely necessary Ministers of Nature, and under God preservers of Mankind, in their daily Practice and Labours, both

both in their Acts of Charity and Deeds of Mercy; in those things for which they only expect a recompence from God, and in those for which they are sufficiently gratified by Men: I say this is no less conducing to the Health of Man than the dissection of Bodies. What particular part of Learning can contain in it more, both of profit and pleasure, than to know the Principles or ingredients that compose this Balsom of Life, and to see what a close coherence there is between the Actions both Natural, Vital, and Animal, and Passions, Gestures, Habits; the Qualities of the Body, as Heat, Cold, Moisture and Dryness, Colour of the Skin and Hair, and the Temperament of the Body, and what an intimate dependance they have one upon another; how the Health of Man consists in the regularity and order of the Humours, and Sickness in their ataxy and irregularity; and how by a prospect into the Complexion of a Body, Sickness impending may be fore-seen, and effectual

fectual preſervations being in time applied, the fatal end of ſuch ſurprizing enemies may eaſily be prevented: and certainly the beſt method a Phyſician can uſe to reſtore a Perſon, almoſt overcome by the aſſaulting violence of morbific tyranny; either when the Particles of his Blood are violently agitated in a continual Fever, that vehement Conflagration and boiling Ebullition of the Crimſon Juice, or when the more ſolid parts, eſpecially the Vital and Inteſtine, are almoſt drowned, when immerſed in the deluge of a Dropſie, that flood and inundation of watery Humours in the Body, or when by the Obſtruction of the Pores, the Gall a feculent and excrementitious part of the Blood, doth regurgitate and mingle it ſelf with the pure Blood, and hereby contuminate it and give it that unhandſome tincture of the Yellow Jaundice: I ſay what can be more effectual to rout and profligate theſe direful Symptoms, than to reduce the Blood (from the vitiation of which Liquor theſe and

and a thousand more sad and dangerous effects have their first rise) to its pristine eucrasie, and also the Humours of the Body to their wonted eutaxie; for *Sublata causa tollitur effectus*, Take but the Cause away and the Effect soon ceaseth; so that hereby the state of those Bodies so afflicted with these tormenting Maladies is soon meliorated, a good *Crisis* first appearing and afterwards Nature having received due and proper Auxilaries from some of her skilful Ministers (I mean those Physicians (tho no other deserve the Name of Physicians) that are well skilled in the Complexions and Temperaments of Bodies, and accordingly, Methodically, not Emperically, apply their Remedies) doth throw off that morbific Matter, whereby she had so long been burthened and molested; upon which all those Maladies do like *Spectrums* vanish and disappear.

The number of the Temperaments, according to Galen.

The Temperaments, according to the Opinion of *Galen* and the Ancients, are Nine; four of which are

are ſimple; as the Hot, the Cold, the Moiſt, and the Dry Temperament; four compound, Hot and Moiſt, Hot and Dry, Cold and Moiſt, Cold and Dry, and one Moderate, which they call *Temperamentum* Ἐυκρασιαν. But our thoughts concerning Heat and Cold, and the other Qualities, cannot but be repugnant to the Opinion of the Ancients, they holding that theſe four firſt qualities, as they call them, are eſſential to, and deduced from the four Elements; but we from the Magnitude, Figure, and Motion of Atoms; as Hot or Colorific Atoms, are thoſe that are Exile in Magnitude, Sphæric in Figure, and Swift in Motion. Cold or Frigorific Atoms, are not ſo Exile in Magnitude, of a Tetrahedic or Pyramidal Figure, conſiſting of four Sides or equilateral Triangles, which is a Figure moſt oppoſite to a Sphere, and they are ſlow in Motion. Moiſture is but a Species of Fluidity, which conſiſts in the ſmoothneſs of the Parts and the interſperſion of Inanity, for Quick-ſilver and melted Lead

Gaſſendus.

What Heat is and what Cold.

What we are to underſtand by Moiſture and Drineſs.

Lead are Fluid Bodies, yet not Humid; and Siccity or Drineſs is a meer Privation of Humidity. I ſhall not therefore treat of the Temperaments according to thoſe Qualities, but according to the number of the Humours; tho there alſo we cannot in all things agree with the Ancients, as I ſhall hereafter declare.

The Temperaments rightly diſtinguiſht, according to the number of the four Humours.

The Humours are four, Blood, Choller, Phlegm, and Melancholy, and in whatſoever Perſons any of theſe Humours are predominant, their Temperament hath its denomination thence; ſo that from hence we learn that there are four ſorts of Temperaments.

The Sanguine wherein Blood, the Choleric wherein Choler or Bile, the Phlegmatic wherein Phlegm, the Melancholic wherein Melancholy, hath the predominancy. I ſhall now lay down the Characters of every of them, whereby any intelligent Perſon, by a diligent peruſal of the following Specimen, and a due reflection upon himſelf, may eaſily be informed what Conſtitution,

ſtitution, Temperament, or Complexion he is of; I ſhall begin with the Sanguine.

The Sanguine Conſtitution deſcribed.

The Sanguine hath the prehemi-nence before any of the reſt; thoſe of this Complexion are hot and moiſt, the habit of their Body is Fleſhy and well Compact, not Fat neither too Lean; for the heat doth not emaciate and make Lean the Body, being alone predominant, and ſo conſume the Body, but it is qualified with a proportionality of Moiſture, which ſerves for Fuel for the vivifying Heat; neither is the Body made groſs and fat by the abundance of Moiſture which affords Vapors, by which Fat is generated; it being well tempered with a ſufficient quantity of Heat, which diſſipates the abounding Humidity; the firſt of which effects always happens in the Choleric Complexion, which is hot and dry, and the other in Phelgmatic, which is quite contrary to that, *viz.* Cold and Moiſt.

The ſtreams of fluid Blood that circulate in the Veins and Arteries, are briskly agitated by the penetrating

trating particles of Fire; and these ignite Particles are kept from causing a Conflagration in the mass of Blood, by the Moisture whereby it is duly moderated, so that the Heat actuates and enlivens the Moisture, and the Moisture supplies the Heat with a sufficient Pabulum, hence for the most part the Colour of their Face is fresh and flourishing, the delicate Sanguine Liquor flowing thro its proper Vessels, causeth the Cheeks to be tinctur'd with a Crimson Red; their Hair also, which is an Excrement resembles the predominant Humour, for it is either of a bright or light Colour, which by its glistering Eradiations, manifests the Body from which it results to abound with Spirits, or else it is Red, the very colour of the Humour whereof it is generated. They are very Active, Brisk, Lively, Vigorous, Spirituous, very Cheerful and Merry, and of a smiling Countenance, by reason of Spirits, wherewith they of this Complexion do most of all abound; their Imagination is very pregnant and comprehensive, because

cauſe impreſſions are eaſily made upon things that are Moiſt, tho not ſo long retained; hence they are very ſubject to Oblivion and Forgetfulneſs; yet ſome do frequently commit Actions which manifeſt Stolidity, as immoderate Laughing and Impudence, in others too much Baſhfulneſs, and others Actions of Folly. In Diſcourſe they are commonly very free and liberal; they have an extraordinary Propenſion and Inclination to Love, being very much influenc'd by *Venus* and *Cupid*, and have very impetuous deſires after Venereal Pleaſures, tho not ſo much as thoſe that are Choleric, by reaſon of the acrimony of the Seed in that Conſtitution. They ſleep indifferently well, not ſo much as thoſe that are Phlegmatic; they are nimble in Motion and Exerciſe, but ſoon weary; they have a moderate Appetite, unleſs Humours abound whereby it is clog'd and ſatiated, alſo a moderate Thirſt; their Pulſe is great, yet ſlow; they have frequent and copious Evacuations

ations of Blood at Nose in the Hæmorrhoids, and Women thro those passages which Nature hath destin'd to carry the Superfluity of Humours that abound in that moist Sex in their periodic or monthly Evacuations. Their Urine, as to its quantity, is very copious; as to its quality, it is of a laudible Colour and good Consistency. Their Skin to the touch is hot and soft, their Vessels are very large and Veins very conspicuous; they are very subject to a *Plethora*, and very obnoxious to Feavers and other Acute Distempers. These are the Signs of the Sanguine Complexion, the next is the Choleric, which is the hot and dry Complexion.

The Choleric Constitution. They of this Constitution are always Lean, Pale, or Yellow, especially under their Eyes; their Hair is Yellow, imitating the Colour of Bile, sometimes blackish, where the Choler is more adust; they are soon Bald, by reason of Siccity, which is here the predominant quality; they are of a sharp Wit, very solert and crafty, of an expedite

expedite Ingeny; they are prone to Anger, Fury, Rage, Audacity, Boldneſs, Boaſting, Bragging, and deſire of Revenge. They ſleep very little; they dream of Fires, Burnings, Scoldings, Fightings and Tumults; they have exquiſite Senſe, and are very quick in Hearing; their Pulſe is great and quick; they have very little Appetite, ſometimes loath eating, eſpecially in the Summer; they love thoſe Meats moſt that are cold, but they find great prejudice by faſting; they have an inſatiable Thirſt, and drink frequently; they grow apace and quickly wax Old, becauſe their radical Moiſture is ſoon conſumed by the abundance of heat; they have a wonderful proclivity to Venery, becauſe of the acrimony of their Seed; they are very much injur'd by the immoderate uſe of it, becauſe their Spirits are eaſily diſſipated by reaſon of their tenuity. They are prone to all biloſe Diſtempers, as Terrian Agues, Phrenſies, Pleuriſies, Vomitings, Diarrheas, Eriſipala's, Shingles, Puſhes and Pimples on their Faces. The

Signs of the Phlegmatick Temperament.

The next is the Phlegmatic Constitution; they of this Temperament are Cold and Moist, the colour of their Skin is white, they are fat and obese, yet not fleshy, their Hair is brown and streight, they are cold to the touch, especially their Hand, and Feet; they have a tollerable Imagination; and indifferent good Perception, but a very shallow Memory; they are dull and blockish, of a very slow and obtuse Ingeny; they are very placable and soon reconciled, extreamly devoted to sleep; they dream of Cold, Waters, Floods, Ponds, Seas, Rain, Snow, Drownings, and white Things; their Pulse is little and slow; they have a small Appetite, little or no Thirst; they grow Old very slowly, and have very little Inclination to Venery, but in the moderate use find much benefit, because by stirring up in them the Natural Heat, which is almost Dormant, the Phelgm is concocted, and the Body made more temperate. They are better in fair Weather and always worse in cold and rainy Weather,

the

the Diſtempers that they are moſt addicted to, are Catarrhs, Coughs, Droplies, Cachexies, Lethargies, Palſies, Appoplexies, &c. They excern a craſs, white, and inſipid Excrement thro the Mouth and Noſtrils; their Urine is white and thin, and Women of this Complexion are often troubled with that which they call the Whites, which is an efflux of a thin white Humour thro the *Uterus*, either continually, or at leaſt in no Order or certain Period. The laſt of the four Complexions which yet remains is the Melancholic.

How to diſtinguiſh when the Melancholic Humour is predominant.

Thoſe of this Conſtitution are cold and dry; their Colour is brown or ſomewhat black; they are of a lean habit of Body, their Veins are very ſtreight and narrow: their Hair is black, hard, rough, or craſs, ſlowly encreaſing and ſoon haſtening to the *Cavities* of Old Age; they are very obnoxious to fear and ſadneſs, and that ſometimes without any known or manifeſt cauſe; yet they are prudent cautious, wary, conſtant and ingenous:

genuous: but where this atrabilous Humour is adust; they are treacherous and unfaithful; they are very difficult to be moved to Anger, but when they are, they are almost implacable; they have a very strong Memory, by reason of Siccity; they are very wakeful, and sleep very interruptedly and disquietly; they dream of black Things, Murthers, dead Bodies, Graves and the Devils, *&c.* They have a very uncertain Aspect and sad Countenance; their Pulse is tardy and hard; they have for the most part a good Appetite, because of the Acidity of this Humour, which is prepared for the concoction of Food in the Ventricles, and stirring up of Cold; yet sometimes, thro the Viciation of this Humour, the Appetite is very much dejected; they have but little Thirst, because of the *Serum* and Spittle which abounds in this Constitution; they have often sower Belchings, which arise from those Crudities wherewith Melancholy Persons do abound; they are very tardy in the performance of Venereal

Venereal Acts, and receive very much injury from the frequent use of them; yet those are more prone to them that abound with Flatulencies, and are hereby often excited to Venereal Actions; they are very subject to Tumours and hardnesses of the Spleen and Hypochondriac Affects, to Tertian Agues, Leprosies, Warts and Hæmorrhoids, *&c.* They often vomit and spit frequently: Hence Melancholy Persons are often called *Sputatores*, they are commonly Costive, and their Excrements are blackish; they also avoid black Blood thro the Hæmorrhoids; their Urine is thin and white, sometimes crass and livid.

Thus we have given a brief Specimen of the Four Constitutions, let me now subjoyn that I would not have the Reader think me so much devoted to the trite old *Galenic* way, as to think that the Blood is a Compositon of these Four Humours blended together, or that I am so strict a Chymist as to explode and utterly reject the Notion of the Four Humours as a

uſeleſs and unprofitable Fiction, and only adhere to their Doctrine (tho very ingenuous) of the Five Principles: But our Apprehenſions are, that tho it be utterly untrue that there are in the Veſſels Four diſtinct Humours, for whatſoever is contained in the Arteries and Veins, is either the ſtale deflagrated Blood, or the Alimentary Juice freſh comeintothe Veſſels, or elſe the *Serum* or Whey returned by the Lymphaducts, or elſe ſome particles of Nitre, and other Bodies received in by the Lungs and Mouths of the Veins from the Ambient; and tho the Blood differ in ſeveral Bodies, only as to the abundance or defect of Natural Heat, yet Men are not improperly ſaid to be of a Melancholic, Choleric, or ſome other Temperament; inſomuch, as by how much the more vigorous or remiſs the Bowels and Entrails are, by ſo much the more weakly or powerfully Concoctions are performed, and conſequently the Blood apt to be overcharged with ſtale and aduſt, or

Dr. Caſtle's Chymical Galeniſt.

Willis de Fermentatione & Febribus.

or else crude and phlegmatic Excrements, in which the Person either way disposed, is not improperly said to be of a Phlegmatic or Choleric Temper; and if the adust or raw Excrement be not rightly and duly seperated out of the Mass, by the effervescency of the Blood, I see no reason why I may not say, A Man abounds with a Melancholic Phlegmatic or Choleric Humour, and if so, than the Notions about Pharmacy aiming at an evacuation or else alteration of the Humours, are not framed amiss, nor without good reason; for I suppose it alters not much the case as to practice, whether we suppose there is too great a redundancy of one of the Humours in the Blood, or whether (which is the right Notion) we apprehend the Blood depraved with a phlegmatic or raw Juice, or a bilose Excrement, consisting of Salt and Sulphur, or the Melancholic, in which the *Caput Mortuum*, or earthy part is predominant; for either of these Notions will direct us (when the Blood is

unable to fine it self) to assist it with those Alteratives, which time and experience hath recommended to us, as proper in those cases; and those Purgers which have been long observed more particularly to make separation, either of the Pituitous, Choleric, or Melancholic Parts of the Blood; for tho it be irrational to think that Purgers do, with a certain knowledge or choice, lay hold of one Humour rather than another; yet is that distinction of Purgers into *Cholagoga*, *Phlegmagoga*, *Melanagoga*, and *Hydragoga*, of very good use, and founded upon Observation and Experience; insomuch as the several Purgers, by causing very different Fermentations, and variously agitating the particles of the Blood, may with good reason cause different Seperations, and so one Purger to evacuate that sort of Excrement, Barm or Lee, which another cannot.

The Doctrine of the Four Humours re-

Thus our Doctrine of the Four Humours, doth not destroy that of the Five Principles; for altho it is apparent

apparent that in the Blood there are five Principles; as

Spirit, which is the Subtile and Volatile part of it, whose Particles being always expanded, endeavouring to take their flight, do agitate the gross Corpuscles of the other Principles, wherein they are involved, and so keep them in that continual Motion of Fermentation,

reconciled with that of the Five Chymic Principles.

Sulphur, which is a Principle of a Consistence somewhat more crass than Spirit, and next to it most active; from this Principle ariseth the variety of Colours and Smells, the pulchritude and deformity of Bodies, and the diversity of Tastes in a great measure; that this Principle is copious in the Blood, is evident from this, that we are for the most part fed with Fat and Sulphurious Things: From the solution of this it is very probable that the Crimson Tincture of the Blood ariseth, for sulphureous Bodies do above all others tinge their dissolving Menstruums with a red Colour; and when, by reason of Cru-

dity, the Sulphur is not dissolved, the Blood becomes pale and watery, and will scarce make red a Linnen Cloth that is dipt in it. The Mass of Blood thus impregnated, with a considerable quantity of Sulphur, together with abundance of Spirits, becomes very fermentescible.

Salt (which is a principle of a Nature, more fixt than either Spirit or Sulphur, neither so disposed for Volatility) is that which makes Bodies compact and solid, also ponderous and durable; it promotes the coagulation of Bodies and Retards their Dissolutions, resists Corruptions and Inflamability, and becaufe Spirit and Sulphur are too Volatile, it fixeth them by its embracing them; that this Principle is in the Blood is manifeft by its Gusto; when the saline Particles in the Blood, are not enough exalted, by reason of a bad Digestion, but remain crude, and for the most part fixt, the Blood hence becomes thick and unable to perform its due circulation; so that

from

from hence arise Obstructions in the Bowels and solid parts, and hence Serous Crudities are abundantly generated; but if by reason of the Deficience and Depression of the Spirit, the Salt be too much exalted and reduced to a fluor, a sharp austere Diathesis doth then accost the Blood, such as is observed in Scorbutic Persons, and in those that are attended with Quartian Agues.

Phlegm or Water, which is the Vehicle of Sulphur and Spirit, and the Medium to unite them together with the Salt; for the other Principles being dissolved, or at least diluted in this, are kept in motion, but without it they become stiff and congealed; it is upon this Principle that the Fluidity of the Blood depends, hereby also its Conflagration and Adustion is restrained and its Heat tempered.

Earth, is that which gives Consistency and Magnitude to Bodies, by this the too great Volatilization of the Blood and its Accension is hindered.

Now tho these Principles are

those whereof the Mass of Blood be composed, yet this doth not at all destroy our former Assertion of the four Humours; for while the Blood is circulating in its containing Vessels, some of its Parts do continually wax old, and new ones do supply their Deficience; hence, either by Crudity, or too much Concoction, something of necessity must become useless and Excrementicious, which by the Fermentation and Effervescence of the Blood (as in the Effervescence and Depuration of Wine) it is secerned and seperated from its Mass: Thus that watery Humour that is percolated in the Cavities of the Stomach and Intestines, is called Phlegm; those Particles of Salt and Sulphur, and and some other adust ones secerned in the Liver, and received by the *Vasa Choledocha*, is that which they call Bile or Choler; and the Earthy Feculencies, sometimes in the Spleen, is that we call Melancholy. But these things I shall more fully handle in the subsequent Chapter, where I shall Discover something of

of the Depuration of the Blood.

CHAP. XI.

Of the Functions of the Body.

NOt to tread in the footsteps of the Ancients farther than their Sentiments are agreeable to the Canons of Reason and Experience, I shall not here confine my self to proceed in their Method, it being inclusive of some particulars, altogether ridiculous and exploded by all the ingenious; for whoever will so devote himself to all their Tenents, must of necessity restrain his mind from believing not only Maxims of undeniable Verity, but also demonstrations of infallible Experience: Thus those that conform their Opinion to theirs, about the Subdivision of the Nutritive Faculty into the Attractive, Retentive, Concoctive and Expulsive, must necessarily thwart their own Experience,

perience, at least nullifie the constant Rules of Nature, in imagining new and fictitious ones; *viz.* By the attractive Faculty they would have us conceive that in the parts of this Body there is resident some charming Vertue, whereby the Proxime Aliment is allured to them, or that they by a kind of Magnetic Influence, do effectually draw unto them the adjacent Nourishment.

By the Retentive they would have us believe that the parts of the Body finding this Aliment so agreeable and consimular to their Nature, are so inamour'd with them, as to retain them by voluntary Embraces.

The Genuine Distribution of the Functions.

The Genuine therefore and Legitime Distribution of the Functions are into these seven, *viz.* The Nutritive, the Vital, the Sensitive, the Locomotive, the Enunciative, and the Generative.

The Nutritive Function.

First the Nutritive Function, forasmuch as Animals can perform those Actions which their Nature is capable of, while they continue in

in that ſtate in which they were firſt formed; the God of Nature hath ordered that a Nutrition ſhould ſucceed, which might dilate and amplifie their ſlender Fibres by interweaving and aſſimulating ſo many more congeners to them as might reduce their Bodies to a convenient magnitude, beſides, which is a great end aſpired after by Nature in this neceſſary Function; this greatly conduceth and almoſt ſolely ſerves for the Conſervation of the Animals, for ſince the primary Principle of Life in every Animal, is a certain vital Flame and indegenary Heat (ſuch as is the rectified Spirit of Wine upon Aſcention) which penetrates and briskly agitates the fluid parts, continually feeding upon them, as its proper *Fabulum* or Fuel, which Sulphureous and Oily Particles afford Aliment to that lamp of Life; this ἔμφυτον πῦρ or innate Heat at firſt kindled by the Vegetative Soul, or rather the Plaſtic Spirit in the Blood, conſtantly burning in the Heart, as in its Fountain or Primary

mary *Focus*, and thence by Diffusion of it self thro the Arteries, warming, enlivening, and cherishing the Parts, would soon consume and dissipate all its soluble Particles, had it not a constant supply and continual Reparation or Renovation of those decays it causes to exhale and evaporate by a substitution and assimulation of equivalent Particles in the room of those dispersed and absum'd; and so at last a *Marasmus* or Consumption would immediately ensue, and the fluid parts being quite exhausted or dispersed, and the vital Flame being quite destitute and devoid of Sustenance, Life would totally be extinguisht, but to anticipate such sad Effects and that this Principle of Life might not become our intern mortal Enemy so soon to destroy us; our Mother Nature hath constituted this noble Function, which, how it is performed, is now incumbent upon me a little to explicate, and that this may be done in a regular procedure, we must subdivide the Nutritive Faculty into

How Nutrition is performed.

to its three Branches, Chylification, Sanguification and Membrification or Aſſimulation, that ſo we may the better underſtand the Proceſſes of Nature in theſe Operations.

Chylification the firſt branch of this Function, called the firſt Concoction, how it is done.

Firſt we muſt enquire into the method of Chylification: This, which is the firſt Concoction, is thus performed. 'When the Food is ſufficiently chewed in the Mouth, by 'the *Dentes molares*, thoſe Grinders 'appointed by Nature for Maſtication, it is detruded into the Ventricle or Stomach (for Deglution 'is made by Detruſion) wherewith 'the Stomach being repleniſht (the 'Appetite being ſatiate) it doth dilate it ſelf; and being alſo endued 'with a power of Contracting its 'Membranous Tunicles, according 'to the proportion of the Food received, it doth cloſely and ſtrictly 'embrace the ſame on all ſides, and 'then ſhut both its upper and lower 'Orifice; the upper, that Vapours 'may not aſcend to the Brains, and 'that Concoctions might be more 'perfect; the lower leſt any of the

'Meat

Meat should descend into the Guts before it be converted into perfect Chyle: The Meat thus received into and embraced by the Stomach, is by and by moistened and diluted, partly by the drink received with it, and partly by an Acid Humour, the Relicts of the last Concoction; which being endued with an Incisive Penetrating and Dissolving Faculty, doth as it were cut and dissolve the Solid Meat into very small pieces, and like an excellent *Menstruum*, extracts a Tincture from its more Laudible and Alimentary Parts: This Mixture being advanced, *Usque ad Minima*, to the least Particles, there presently succeeds a Fermentation, whereby at last the whole Mixture is brought to a new Consistence and Colour, not much unlike the Cream of Barley, and is that which Physicians call the Chyle. The Chyle being thus perfectly concocted, is by the Gradual Contraction of the Stomach, detruded into the Guts; where the Guts by a Peristaltic

Motion

'Motion contracting them down-
'wards; and this passing by the In-
'testines, its more pure and dese-
'cate parts are distributed thro the
'Milky Veins, and the excremen-
'titious and unprofitable parts are
'excluded by Stool: These Lactean
'Veins, carry the Chyle into the
'Common Receptacle called *Recep-*
'*taculum Commune*, and from hence
'it is transmitted thro the *Ductus*
'*Thoracici*, to the Subilavian Bran-
'ches of the *Vena Cava* near the
'extern Jugular Veins; their be-
'ing mixed with the Blood, it is by
'the Ascendent Ttrunk of the *Vena*
'*Cava*, soon imported into the right
'Ventricle of the Heart.

Sanguification, or the Second Concoction.

The next Branch of the Nutritive Function, is that of Sanguification; it is in this Concoction that the Chyle receiving yet farther Exaltations by a greater Solution of the more Noble and active Principles, once again deposites its old Color and Consistence, and so at length becomes perfectly changed into that true Liquor, which is called Blood; for as soon as the *Vena Cava* hath committed

How Chyle is transmuted into Blood.

mitted the Matter of Nourishment into the right Ventricle of the Heart, the Ferment therein contained, working suddenly and throly upon it sets the Active Principles at a great freedom, and so inducing a new motion and effervescence into the Blood, doth happily impregnate it with Vitality; hereby its Nature is exalted, and those Natural Spirits contained in it are advanced into Vital or more Sublime and Active ones; while the Vital Spirits pre-existent in the Ventricle of the Heart, do enkindle the same Heat, and cause the same diffusive or expansive motion in the Natural, which they themselves have formerly acquired. As for the Primary Agent or Efficient occupied in the Office of Sanguification, it is not the Liver, as *Galen* and his Sectators fictitiously conceived; nor the Veins, as some Anatomists have dream'd; nor truly the Heart, as *Aristotle* and his Disciples, with several late Judicious Writers, have asserted; but by the Vital Heat residing in the Blood: for the Heart bor-

borrows all its Activity meerly from the Vital Blood contained in its Ventricles, and distributed into them by the Coronary Arteries; of which Vital Influx were the Heart deprived some few moments, 'It would surcease its Activity and desist from its Sanguifying Function; yea it would become as Torpid and Motionless as any other part of the whole Body: so far is it from exalting the Chyle into so Noble a Nectar as the Blood is by any Simular Action of its own. Yet we must acknowledge the Heart to be the Center and Chief Place of Residence for this Vital Flame, and may notwithstanding be still properly styled the Fountain of Life. As the Chyle in the first Concoction was seperated from its Fæces, so in this second Concoction the Crimson Juice is depurated from its unprofitable Excrementitious Parts; for the blood being an Heterogeneous Substance, consisting of several different Principles, when those Parts which are most prone to Volatility, are dissipated and consumed,

The true Instrument that Nature makes use of in making Blood.

med, and when the Sweet and Inflamable Spirits are exhausted, certainly the remaining Mass must needs become useless and incommodious to Nature, and so degenerating into Excrements, ought as soon as may be to be sequestred from the Pure Mass of Blood; in which wholesome Liquor those Excrementitious Parts are no longer deemed fit to remain Ingredients.

The Excrements sterned from the Blood.

The Excrements that are seperated from the Blood, are Choler, Phlegm, and Melancholy; to which we may add or under these comprehend Urine, Sweat, Tears, and the Lymphatic Liquor.

Choler is a bitter Excrement, generated of the Saline and Sulphureous Parts of the Blood, exalted by Adustion, and seperated from the Blood thro the *Parenchyma* of the Liver by a kind of Percolation, and thence conveyed by its proper Vessels into the Intestines, there rendring the Excrement of the first Concoction fluxile; being excluded with them. This Bilious Excrement

is also in a small quantity effused out of the Capillary Arteries and collected in the *Meatus Auditorius*, or Cavity of the Ears, and there appears under the Form of that thick, yellow, and bitter Excrement we call Ear-wax.

Phlegm is a Cold and Moist Excrement, as for its *Sapor* it is sometimes Salt, somtimes Sweet, and sometimes Acid; to which we may add its Insipidness as another; and as for its Consistence it is sometimes thin and serous, sometimes thick viscid and mucilaginous; and then it is called Glassy Phlegm; and when it putrifies and corrodes, it becomes Salt and Eruginous; it is seperated from the Blood while it is wrought thro the Branches of the Celiacal Arterie terminated in the Stomach, and there by Transudation immitted into the Cavity of it; where it is found endowed with some Acidity: It is also spewed forth out of the Mesenteric Arteries into the Substance of the Guts, and transmitted into their Cavity by insensible passages; here it is insipid, with-

without any Taste at all. It also distils from the Brain, being excern'd from the Blood either by the Palate or Nostrils; likwise it falls from the Pituitary Glandules situate about the *Basis* of the Brain, and is also seperated by the *Glandulæ Sublinguales* and other Spongy Parts of the Jaws and Mouth, and so becomes Spittle.

Melancholy is a Cold and Dry Sediment of the Blood, in colour Black, in Taste sowre and sharp, seperated by the *Parenchyma* of the Spleen; for the Blood brought hither by the Celiacal Arterie, and passing thro many turnings and windings, and as it were percolating thro the *Parenchyma*, doth leave behind some salt and earthy parts, which after they have undergone some alteration by their mutual Action one upon another, by their attrition and justling in their passages thro the several Cells, Cavities and Pores of the *Parenchyma*, are by the fresh Blood which continually flows thither by perpetual Circulation carried back thro the

the Veins into the Mass of Blood, in which they serve for a most useful and effectual Ferment; and whatsoever of this Acid Humour is unfit to ferment the Mass of Blood, it is sent out and discharged with the *Serum* by Urine; and tho this Hypothesis of the Spleen, being the Receptacle of *Melancholy*, be by many Anatomists exploded, yet *Bartholine*, *Waleus*, and *Highmore*, do still assert it: *viz.* That as the Liver doth secern the Bile, so likewise the Spleen doth seperate a certain Acid Liquor from the Blood, which may be called *Melancholy*.

The true Rise and Origin of Splenetic and Hypochondriac Affects.

When this Ferment once grows too Sharp and Acid, and acquires parts apt to provoke, irritate, and prick the sensible parts of the Body, and the Fixed Salt becomes Fluid, it presently infects the whole stream of Blood, puts it into violent and disorderly Motions, vellicates the Nervous Parts, fixes the Spirits, puts all the Humours into strange confusion, and makes them apt to congeal and stagnate; and hence those Hypochondraic Affects which

which usually molest Melancholy Persons have their Rice and Origin; for in those that labour under these Distempers, all the Fixed Salts of the Blood which circulate thro the Spleen, are there made Fluid, and at length come to prevail over the other Principles of the Blood, and turn the whole stock of it into a Liquor as sharp as Vinegar or Spirit of Vitriol; by which means all the Spirits are depressed and kept under: Sowre Belchings and Vomitings ensue, violent and irregular Motions and boyling Ebullitions of the Blood; which direful Maladies are sooneſt cured by those Medicines, which abounding with Fixed Salts, do precipitate the Blood, as those extracted from Steel, Tartar, Vitriol, and all Testacious Bodies, as likewise Diuretic Remedies, for we find by experience that these Medicines do sweeten all sharp Liquors and abate their pungency; for the Acrimony of Salt is not blunted by Sulphureous but Saline Bodies, by reason that Fixed Salts by an intimate and close Union to

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the Fluid do obtund their points and edges; thus the corroding sharpness of the Spirit of Vitriol is taken away by Salt of Tartar or Wormood; and saith *Fonseca*, 'Salt 'of Tartar hath a great power in 'allaying the turbulent Acrimony 'of Melancholic Humours; for by 'an intrinsic property it attracts all 'their sharpness: Thus if we distil an 'Ounce of Tartar with two quarts 'of the strongest Vinegar, a Water 'will arise without any Acidity. And truly it is very probable that the reason why Melancholy Persons find so much benefit from Medicines of Tartar, is that by sweetning the Blood and Juice in the same manner as that dulcifies Vineger, the Tartar frees the Body from those inconveniences which are caused by their pungency and acrimony. The way and manner how the Blood doth degenerate from a sweet and balsamic Constitution into a Liquor altogether sharp, harsh, and unpleasant; and how this alteration is effected, ought a little to be enquired into. As long as the

small passages in the Spleen remain free and open, and the Substance or *Parenchyma* of it is not grown so hard and earthy as to alter the Natural Position and Shape of the Pores, the supply of a well prepared Ferment is duly and regularly performed; but if either from a Natural or Melancholic Constitution, or Errors in Diet, the Substance of the Spleen be render'd too compact and solid, and the Pores and Spaces are altered from their Natural Figure and Magnitude, the Saline Particles in their percolation thro the Spleen, are so worn and grinded, that they are not only seperated from the Sulphur and Phlegm which is necessary for the making of a Ferment, but likewise forcibly disjoyned from the Earthy Principle, without which they cannot remain fixt, but presently become fluid; and then instead of a Ferment which should maintain in the Blood an orderly and moderate Ebullition, a sharp, eager, and pungent Liquor is sent into the Blood, which puts it into

irre-

irregular and tumultuous Fermentations, and renders the whole Frame and *Crasis* of the Body disorderly. If we consult the Symptoms of Hypochondriac Persons, first their Appetite to Meat, by reason of the sharpness of the Ferment in the Stomach, is often too extravagant; yet the Meat is ill digested, and much of it turned into sowre Water; and hence the Stomach being provoked and convelled by the gnawing Acidity of its *Menstruum*, these persons are troubled with continual Spitting, sometimes loathing and vomiting; they are usually Costive, and their Fæces very black, by reason of the *Vitriolic* Acidity which produces that Colour: their Urine is generally high-colour'd, like a strong Lie, because the Salt not being sufficiently volatilized and breathed out thro the Pores, is sent down in the *Serum*, thro the Urinary Passages: they find also about their Breast a great Oppression, Straitness, and Difficulty of Breathing, and sometimes fall into Astmatic Paroxisms:

Moreover, They complain of a great trembling and palpitation of the Heart, of a great weight and oppression of it; which Symptoms proceed partly from the sharpness of the Nervous Juice, which grates and vellicates the Nerves, and is apt to stagnate in them, and partly from the Blood, which is not well and regularly fixed in the Heart; hence proceed acute and wandring Pains about the *Mediastinum* and Shoulders, and sometimes such as imitate the Cholic and Nephritic Passions.

Thus tho this Acid Juice, according to *Helmont* and *Sylvius*, may be very useful in some parts of the Body, and tho it may serve for a useful Ferment, yet too great a quantity of it in the Blood, may cause a Disease and indicate an Evacuation; but it is now high time for me to return from this Digression.

Assimulation, Membrification, or the third Concoction.

We come now to the third Concoction, which is the third Office in the Nutritive Function, and that is *Membrification* or *Assimulation*; this

this is performed when the Nutritive Juice is ſufficiently prepared, and by the Impulſe of the conveying Veſſels is brought near to the parts that are to be nouriſhed, and there by an Appoſition, Agglutination, and Tranſmutation, all which muſt in order ſucceed each other, is united to them. The Material or Conſtitutive Principle of this is now commonly reputed not to be the Blood (tho *Ariſtotle* greatly contended for it, and the School of Phyſicians hath given its Suffrage to verify this Tenent) but a certain ſweet, mild, and balſamic Liquor, analogous to the White of an Egg, out which a Chicken is formed.

The next is the Vital Function; this is that whereby Vital Spirits are generated in the Heart for the Conſervation of Life in the whole Body: Life primarily conſiſting in the procreation of Heat and Spirits, and their due Contemperations with the Blood and Members of the Body, and hereby vivifying them, it is moſt neceſſary a living Body ſhould be furniſhed with them; and *The Vital Function.*

seeing that they are dissipable and soon ready to be spent, the Body would soon be left in a state altogether inactive and liveless, were it not supplied by a continual Generation of Vital Spirits. By *Vital Spirits* I mean nothing else but the more fine, volatile, ætherial, sublim'd and subtiliz'd part of the Blood; by which the Fermentation and Intern Motion of the Particles in that Liquor is maintained, and that in its Circular Motion preserved from Stagnation and Coagulation; and when the Body remains in a state of Health a seperation is continually made of all Immiscible and Heterogeneous Bodies, which are either taken in with the Aliment, or else come in the Blood from the Ambient. This is that Vital Flame I before mentioned, and it is nothing else that the Pseudochymists do understand by that great Term, their *Noble Archeus*, that *Vox & preterea Nihil.*

What Vital Spirits are.

The Archeus of the Pseudochymists a meer Fiction.

To the Conservation of this Lamp of Life, or the Generation of Vital Spirits, there are two Actions or Motions

Motions ſubſervient, *viz.* *Pulſation* and *Reſpiration.*

Pulſation is not made a Motive Faculty inherent in the Blood, either in reſpect of its Ebullition and Rarefaction, or Vection and Attraction, but partly by the Influx of the Blood diſtending the Ventricles of the Heart, and partly by that pulſific Faculty reſiding in that Fountain of Life; this Pulſation conſiſts of three parts, the *Syſtole*, the *Diaſtole*, and the *Periſyſtole*, or intermediate reſt. *Pulſation how performed.*

The *Syſtole* is the Contraction of the Heart to a narrower compaſs, expelling the Blood contained in the right Ventricle thro the *Vena Arteriosa* into the Lungs, and that contained in the left into the great Arterie; and ſo into all the parts of the Body. Hence we may ſee the reaſon why the Motion of the Heart is moſt ſenſibly perceived on the left ſide, without imagining the Heart to be more ſituate on that ſide than on the other.

The *Diaſtole* is a Dilatation of the Heart to receive the Blood in the

right Ventricle out of the *Vena Cava*, and into the left out of the *Arteria Venosa*.

The *Perisystole* is a certain quiet or short rest between the *Systole* and *Diastole*; but of this see more pag. 108.

Respiratum its two parts, Inspiration and Expiration.

Respiration is an Act of the Lungs and *Thorax*, consisting of two contrary Motions, alternately successive, *Inspiration* and *Expiration*.

Inspiration is caused by the Dilatation of the Lungs and Breast, that so the Ambient Air might be received.

Expiration is the Contraction or Compression of those Parts, whereby the same Air is expelled; just as the Air is received in and expelled by a pair of Bellows.

The use of *Respiration* is not as hath been vulgarly held by the Ancients, to refrigerate or cool the heat of the Heart, for we see Air blown out of a pair of Bellows, doth not any way extinguish, but promote the accension of Fire; but the use of *Respiration* is as Dr. *Charleton* saith,

1. To

1. To ſubtilize the Blood, and by the admiſſion of Air make it more convenient Fuel for the Lamp of Life and matter of Vital Flame. *The uſe of Reſpiration in Eight particulars.*

2. Or as Dr. *Henſhaw* ingeniouſly ſuppoſeth, To perform the Office of a Tonic Motion, which is wanting in the Lungs: for ſaith he, In all the Muſculary Parts of the Body, there is a Natural Contraction of the Fibres, whereby the Blood proceeding from the Heart, and diffuſing it ſelf thro theſe parts, is expelled thence, and cauſed to recede to its Fountain again; now the Lungs being a lax, ſpongy, and *Parenchymous* part, is devoid of this Motion, and certainly did not *Reſpiration* ſupply its defect, it would ſoon be overwhelmed with the redundancy of Blood coming upon them, and ſo a Suffocation of the Animal would immediately enſue.

3. It ſerves for the Creation of Voice, whether Articulate or Inarticulate.

4 For the diſtribution of Chyle, both out of the Stomach and Guts,

thro the *Vena Lactea* into the grand Receptacle, and out of that Receptacle into the *Ductus Chyliferi*.

5. For the Exclusion of Excrements.

6. For Smelling.

7. For Coughing, Sternutation, Excretion, and Emunction.

8. To assist the Body in any strange violent Motion.

The Sensitive Function.

The next is the *Sensitive* Function, this is that whereby a Man doth exercise his Sense: Whether or no Sense be performed by the Influx of Animal Spirits, I cannot here determine, there being so many, almost inextricable difficulties on both sides. The Senses are commonly known to be five, The *Visive*, *Auditive*, *Tactive*, *Gustive*, and *Olfactive*, or *Seeing*, *Hearing*, *Touching*, *Tasting*, and *Smelling*; each of which Senses have their proper Organs. In every Sensation there are these four things requisite: First, An Instrument well disposed. Secondly, A proportionate Object. Thirdly, An adapted *Medium*. Fourthly, A convenient distance between.

The number of the Senses.

What things are requisite in every Sensation.

between the Object and the Instrument.

The next Function in order, is the *Loco-motive*, whereby a Man performs local and voluntary Motion; the Instruments that Nature hath supplied a Humane Body with for the performance of this are Muscles, Tendons, Ligaments, and the Junctures of the Bones. *The Loco-motive Function.*

The *Enunciative* is that Function whereby a Man expresses the Sentiments of his Mind by his Voice; the Organs of this Function are the Lungs, the *Aspera Arteria*, the Mouth: that the Voice might be at pleasure, either intended or remitted the Tube of this Arterie is furnished with Ringy Cartilages, the lower of which, if when contracted, the attracted Air doth meet, there is instantly caused a strong percussion: and hence a great Voice results, but by the uppermost a smaller re-percussion is made. And hence an acute and squeeking Voice ariseth; and that the sound after it is modelled in the *Larynx* might be articulated, Nature hath given us a *The Enunciative Function.* *How a strong and a weak Voice is caused.*

a Throat, Tongue, Lips, Teeth, and Nostrils.

The Generative Function.

The last of all the Functions is the *Generative*, this was appointed for the multiplying of Mankind; it is from the mutual Congress of two Sexes, the prolific Seed, being emitted from both, and treasured up in the Magazine of the Females Womb, that the first Rudiments of a tender *Fœtus* do emerge. There being abundance of Natures Curiosity under this Head, I shall take occasion a little to amplifie hereupon, and shall treat of,

1. The Nature and Origin of the Seed.

2. The Manner and Signs of Conception.

3. The Formation of the Child in the Womb, and its Position.

4. The Manner of its *Exit* or Coming forth.

The Nature and Origin of Seed.

The Seed is a Humid and Spirituous Substance, elaborated in the Testicles from the residue of the third Concoction, or from the Arterial Blood, having a prolific Vertue,

tue and concurring to the procreating of the *Fœtus*, not only Virtually but also Materially.

The Efficient cause of *Spermification* is the *Parenchyma* of the Testicles; these by their hot and moist Temperature, and also an Intrinsic Specific Propriety, doth convert the Arterial Blood into Sperm, which after it is here prepared, is reconded in the Seminary Vessels; and if there be a redundancy, that which abounds is either carried back thro the Spermatic Veins to the Heart, or goes to the Nutrition of the Testicles, or else is excern'd thro the Lymphaducts; for without the Testicles Seed is not, unless extraordinarily, generated; for it is from them that the Seed receives both its Form and Colour; and if a Conception happen from one that is castrated, it is by reason of some Seed before the Amputation of them, prepared and reconded. Women also do emit Seed, and have likewise for that purpose Testicles given them by Nature. In the Seed there are two parts,

The

The Spirituous part, and the Colliquament. The Spirituous Part is that which causeth in the Seed a Turgency and Frothiness, by reason of the extream Mobility and Volability of the Spirits. The Crass Colliquament is that moist and watery Substance which manifestly appears when the Spirits vanish and evaporate; for it then lays down its Whiteness and Spumosity.

This fruitful Liquor by its prolific Vertue, after the Spermatic Contact in Coition, doth so affect the *Uterus* of the Female, as to impregnate it with Fecundity, and make it also become Prolific; which having received this Plastic Generative Power, communicated to it from the Male, doth put this Power into exercise, and so procreateth its own like; and truly the Vertue proceeding from the Male, doth so largely fructifie the whole Female, that it produceth a thoro Change and Alteration, as well in the Frame of their Minds, as Constitution of their Bodies.

2. The

2. The Manner and Signs of Conception: The *Uterus* of the Female, by the previous Converſe ſhe hath had with the Male, and his Incitements which he uſeth to entice her, as alſo by Natures own Inclination and Tendency, is adapted for Conception; which preparaion of the *Uterus* conſiſts in this: *Conception the Manner of it.*

Firſt, The *Uterus* appears thicker and more fleſhy, and afterwards in the *interior* Superfice, which is the place where the future Conception is to be received, groweth more tender, anſwering in Lubricity and tenderneſs the intern Ventricles of the Brain: in ſome places it hath little Knobs, which do ſwell inward and become exceeding ſoft; the *Uterus* thus reduced to a ſtate of Maturity, and Coition immediately ſucceeding; the Seeds of both Sexes being effuſed at the ſame time, the Males into the Neck of the *Uterus*, and the Females into the Cavity of her own *Matrix*, the Womb being endued with the property of attracting and drawing to it ſelf the Virile Seed, it greedily ſucks

sucks it in, and there the Seed of both Sexes being exactly mixt together and strictly contained within the Confines of the *Uterus*, the whole Body of the Womb doth contract it self, and the intern Orifice of it becomes so closely shut, that the Point of the sharpest Needle cannot be admitted; the two sorts of Seed there reconded are cherished by the Heat of the *Uterus*, and thereby their Heat and Spirit stirred up, and the Plastic Vertue, which before lay Dormant there, is now reduced into Act, and hence immediately Conception ensues. The Signs of which are these:

Seven Manifest Signs of Conception.

1. A kind of horror and trembling after Coition, which is caused by the Contraction and drawing together the Womb.

2. Retention of the Seed, If the Seed fall not out again we may Conjecture there is Conception.

3. A close Occlusion of the Orifice of the *Uterus*.

4. A Suppression of the Natural Courses.

5. A Swelling, Hardness, and Pain in the Breast.

6 A

6. A Languid Appetite and Desire of Venery.

7. A Nauseating and Loathing of Meat.

3. The Manner of the Formation of the *Foetus* and its Position in the Womb. The Efformative Vertue being now excited by the Heat of the Womb, doth wrap up the whole Seminal Matter into two Membranes or Tunics, the one is called *Chorion* and the other *Amnios*, and in seven days time after the Conception the Lineaments of the Spermatic Parts begin to appear; for if a Geniture after the seventh day suffer an untimely *Exit*, and be cast into Water, there will appear in it three little Bubbles, which are the Rudiments of the three Principal Parts, and abundance of little Filaments, which are the Threds of the other Spermatic Parts. All the Spermatic Parts are perfected in Males in the space of Thirty Days, in Females in Forty; the fleshy Parts in Males are perfect in Three Months, in Females in Four, and then the *Foetus* begins to be quick.

quick. The Spermatic Parts are generated of the Seed of both Sexes, but the Fleshy Parts of Menstruous Blood, which hath an Influx thither till the whole Structure of the *Fœtus* is compleated.

The Position and Situation of the Infant in the Womb.

The Situation or Position of the Infant in the Womb, is commonly found to be thus; His Knees drawn up to his Belly, his Thighs bent backward; his Feet hanging down, his Hands elevated to his Head, whereof one is placed about his Temples or Ears, the other upon his Cheeks; in which Parts there are white spots discovered in his Skin, as Signs of Confrication; his Spine or Back-bone bent-round and his Neck being inflected, his Head hangs near his Knees; the *Embryo* is situated with that Position of Parts wherewith we commonly apply our selves to rest, with his Head uppermost, and his Face directed towards his Mothers Spine; but a little before his Birth, his Head being bent downwards, he dives towards the Bottom and Orifice of the Matrix, as if he were seeking his way out.

Lastly,

Lastly, The Manner of its Exit or Birth: After the *Fœtus* hath acquired its due Conformation, Nutrition, and Augmentation, not finding a sufficient Aliment, and wanting Air to Ventilate the abounding Heat, begins to seek a larger Space; and being irritated, distends the Membranes of the *Uterus*: and endeavours to extricate himself out of that Prison, wherein he is so confined and incarcerated; and hence results a double Motion, one of the *Fœtus* striving to get out, and another of the *Uterus* it self endeavouring to exclude the *Fœtus*: All things being thus arrived to a Mature State, and the Mattix being near Delivery, doth bear down, groweth soft, and openeth its Orifice; the Waters also, as they commonly call them, are gathered, that is a certain part of the *Chorion*, in which the aforesaid Humour is contained, doth usher in the *Fœtus*, and slide down from the Matrix into the *Vagina* or Sheath of the Womb; and the Neighbouring Parts also are loosened

The Manner of its Birth.

looſened and ready to diſtend, and the Articulation of the *Os Sacrum*, and the Share-bone to the Hanch-bone (which Articulation is by *Synchondroſis* or a griſly Ligament) is ſo ſoftened and looſened that the aforeſaid Bones do eaſily give way to the parting Infant; and by gaping open, do amplifie the whole Region of the *Hypogaſtrium* or lower Belly: and when theſe things are in this condition, it is certain the time of Birth is at hand.

In what Month the Birth commonly happens.

As for the time when the Birth happens, altho it be regular in almoſt all other Animals, yet in Women it is very enormous; for ſometimes it happens in the Seventh Month, ſometimes in the Ninth, ſometimes in the Tenth or Eleventh, ſeldom in the Eighth; if it does, the Infant ſeldom lives: the Cauſe of which Aſtrologers attribute to the unhappy Iuſlux of *Saturn*, which they ſay rules on the Eighth Month. The ordinary Computation of going with-Child obſerveth that time which our Bleſſed Saviour, the Perfecteſt of all Men did fulfil in the Virgins Womb; namely,

namely from the Day of *Annunciation*, which is in *March*, to the Blessed day of His Nativity, which is celebrated in *December*; and according to this Rule the Sager Matrons, keeping their Account (while they cast in the wonted day in every Month wherein they were accustomed to have their Purgations) they are seldom out of their Reckoning; but Ten Revolutions of the Moon being expired, they are delivered, and reap the fruit of their Womb upon that very day; whereon were it not for their Pregnation their Purgations would ensue.

CHAP. XII.

Of the Sexes.

NAture (or rather the God of Nature) after the large and stately Theatre of this World was erected and perfectly finished, began to contemplate what kind of Creatures

tures might be best adapted to Act upon this lower stage, and therefore Man being a Creature endued with Reason, was chosen to be the Chiefest Actor; and that the Comedy might be carried on with more Variety, Nature the Disposer of it, thought it requisite that the Persons whom she would cause to Act their several distinct and different Parts in various Scenes and several Circumstances, might be discriminated one from another, not only by the difference of their magnitudes, complexions, ages, or physiognomies, but also of their sexes; and that they might not only be invested with different Apparel, but that their Souls might be Cloathed with Bodies of different composures: Thus She hath contrived that the Spectators might be pleased with the Varieties of Men and Women, and that the Rules of *Oeconomics* in visible practice and the Actions of Lovers might be the better represented in their proper Scenes. Here may be seen how the Diligent House-wife is busie in her Domestic Affairs, while her Careful Husband is sedulous

lous abroad, in getting a ſupply. Here alſo in another Scene we may behold how the Amorous Glances of an Atracting Beauty do Captivate the Affections of the Nobler Sex, how a doteing Lover Courts his *Miſtriſs*, while She at firſt requites him with nothing but Coyneſs and Averſneſs; but at laſt being overcome with the reſtleſs and unwearied Expreſſions of his Love, ſhe breaks forth into a career of Love, and profeſſeth he hath won her Affections and elevated her Mind into ſuch a paſſion, that it is now impoſſible for her to reſtrain from breaking forth into the moſt ardent Raptures and pathetic Expreſſions of an undoubted Love; now her former pretended Coyneſs is turned into amorous Embraces, and her wonted ſeeming Averſneſs to the Careſſes of entire Amity; and modeſt Kiſſes become Badges to diſcover thoſe flames of pure Love, which ſhe couched under the ſurface of an incenſed Breaſt. Strangeneſs is now turned into Familiarity, ſmall Acquaintance into Conjugal Society, and

and former Seperation into a close Union of two Minds, and a mutual Enioyment one of another.

The Distinction of Man into two Sexes.

It being our business to consider Man in all manner of such like circumstances, we shall here take occasion to exantlate something concerning the Sexes appropriated to Mankind, and they are generally known under the Names of Male and Female.

The Male his Nature and Difference from the Female.

The Male (on whose Masculine Soul Nature hath conferred a Body in Strength and Vigor almost adequate to it) is of a hotter and drier Temperature than the Female; for if we can give credence to our common Anatomists, the Seed whereof the Male is generated, is of a hotter Nature than that whereof the Female; because, say they, it descends out of the right Side from the Trunc of the *Vena Cava*, while that which affords Matter for Generation of the Female, proceeds out of the left Side from a branch of the Emulgent.

When a Male and when a Female is generated.

Their Native Heat invigorating their Bodies, makes them robust and

and more fit for Labour, and gives them a vehement Pulse and Respiration, and causes in them a strong and Man like Voice, exhales and dries up the relicts of Humidity, which Nature cannot dispose of for Nutrition, and leaves nothing at all superfluous; and hence the abundance of Vapours, which this insulting Heat causeth to be emitted thro the Pores of the Body, some of them there at their very *Exit* thence are condensed by the Extern Ambient Cold, and there remain in the Form of Hairs, for (which is very observable) Nature hath given a Hair to every Pore, unless those which are constituted in those places, where by Attrition they are continually worn off, or their Generation impeded; hence it is that Men are more Hairy than Women, even in the whole Superfice of their Bodies, these innate colorific Particles, do by their agitating Virtue, cause the Blood more briskly to ferment and circulate with more velocity; they amplifie the Veins and

other Vessels, and make the whole Structure of the Muscles more compact and solid; as for the influence this hath on the Soul, or what different Operations it causeth in the Mental Faculties; we may only take notice that they of this Sex have a more profound judgment than those of the other, tho not so acute a Phansie; their Wills are more stable and resolute, tho they are so full of Affection.

The Female. The Female (the Character of whose generous Sex I know not how to delineate, least by attempting it I should too much derogate from their Worth and Excellency) is of a colder and moister Constitution, yet of a more delicate and finer Contexture than the Male; yea, some of this Sex, both in the Beauty and exquisite Contexture of their Bodies, and in the Pregnancy and Acuteness of their Phansie, do far excel any of the other.

When we consider how he who is the Sole Creator of all things (from the Center of whose Munificence all His Creatures derive their beings) hath

hath diſplayed the effulgent Rays of his Benevolence, and manifeſted the Reſplendent Beams of his Inimitable Work-man-ſhip, in making ſo Glorious a Creature as Man out of ſuch Corruptible Principles and ſuch Fading Elements; how can we but ſtand and admire Him? But when we take a view of ſome of this Noble Sex, whoſe Bodies He hath framed into ſo Beautiful Compoſures, how can we but be aſtoniſh'd at ſuch products of His Efficience? Such lively Features and ſuch a Delicate Structure of Body is ſometimes repreſented to our Sight, as Charms the Affections of the moſt Moroſe and Rigorous *Stoic*, and where the Man is not byaſſed to the Admiration of the Creator, the very aſpect of this makes him indulge it to admire the Creature; yea ſome are ſo ſmitten and aſtoniſhed at one glance, that they ſtand agaſt, and think that the Beauty of the Univerſe is therein Epitomized, and that the whole force of Natures Puiſſance did combine in the exertion of its Power for the productiOn

The Praiſe and Encomium of that Noble Sex, both as to their Beauty and Phantaſie.

on of so Curious a Creature. But all this is but vanity which soon decayes, it is the other Excellency, often to be found in Women, that is far transcendent, and that is Phantasie; tho this often becomes too extravagant: The fine contexture of their Brain makes their Invention far more acute and pregnant, and its moisture adapts it to take impression. How exceeding quick and ready are the wits of some Women? How will they sometimes puzzle and *non-plus* the wits of Intelligent Men? And how Facetiously will they write, especially when their Phantasies are elevated with Love-Passions.

The Excellency of Marriage.

Having considered both the Sexes a-part, let us now consider them in that blessed Bond or Matrimonial Contract which God hath instituted to unite them. There is certainly in each of these Sexes a very impetuous inclination given them by Nature to this Union, and this doubtless is as Natural to them as to have an Appetite to their Food;

Food; nay, I do not queſtion but the Function of Generation, is attended with no leſs Incitements to the exerciſe of it, than any other Function of the Body; yet ſuch is the depraved ſtate of Mankind, that ſtill his Senſual Appetites are almoſt inſatiable, and his Carnal Deſires boundleſs and irregular; not only in deſiring abſolutely forbidden Things, but alſo in craving an immoderate meaſure of thoſe Things that God hath indulged him moderately to uſe; and therefore God hath in his Infinite Wiſdom thought it requiſite to confine and limit every Man to his own Wife, and every Woman to her own Husband; and that there is more Comfort and Felicity to be found in this Union, where there is a happy Congruity, none unleſs contradicting Reaſon, Experience, or Natural Inclination, or thwarting the Laws of Nature and the Inſtitutions of the Divine Creator, can deny; and juſtly may thoſe perſons be deemed Fools, who for ſome ſmall pretended inconvenience of that Life, will 1 Cor. 7. 2.

rashly and inconsiderately hurry and precipitate themselves to the actual commission of such horrid Crimes as make Nature it self ashamed and blush with an angry regret, and invocate the plagues of an incensed Deity; contemning the instituted Laws of Nature, and commiting Actions contrary to it.

Reflections on them that speak against and calumniate Women.

Others there are, who out of a Morose and Currish Humour, do not only derogate from the Praise due to the Creator, but also abuse that whole Noble (tho *Inferiour*) Sex; universally calumniating all Women, and superciliously insulting over their imperfections, when alas, these pragmatic conceited persons, have either by their dogish and currish Tempers and devilish Pride, enraged themselves with a passion of Envy at the Love and Respect which is civilly paid them, by Men of a better Disposition than they, or else they are guilty of such hellish Enormities, as divert their Affections from all Lawful Objects, causing them insatiably

bly to purſue thoſe things that are wholly illegitimate, and prohibited by the Divine Legiſlator. Let none then, indulging in themſelves that Squint-eyed Paſſion, contemn and deſpiſe the Inſtitutions of God and Nature; for certainly whoſoever ſo do, give great Sulpicion to the Intelligent World, that they uſe unlawful means to ſuffocate their lawful and regular Affections. Some are grown ſo audacious and impudently wicked, as with a Brazen Fore-head, wholly abjuring the Rules of Chaſtity, and violating the Rules of Common Modeſty, confronting the face of many, and openly proteſting there is nothing in the Marriage-bed, but what the Pleaſures of Whoriſh Embraces do far ſurpaſs: But at laſt, how are theſe Men deluded, when their whole Bodies, infected with the Contagion of Whoriſh Carcaſſes, break out into Venereal Botches or Pocky Bubo's, are perplexed with Virulent *Gonorrhea's*, moleſted with Nocturnal Pains, and having their Throats or Noſes ex-

What befals them that abhorring Marriage, contaminate themſelves with polluted Women.

ulcerated by the corroding particles of a desperate Contagion communicated to the whole Mass of Blood; and this they receive as a small inconsiderable reward for their former brave Exploits, while on the other side they are sacrifising their infected souls to the Altars of *Satan*. Certainly then it is now evident that the Comforts and Pleasures that are to be enjoyed in a Married Condition, must far transcend such impure promiscuous Congresses as wholly invert the establisht Canons of Mother Nature: Yea truly, I verily believe that this State doth surpass a tiresome Life of Solitude, neither would any other continual Society be so satisfactory, or in the least parallel to it.

CHAP.

CHAP. XIII.

Of the Ages of Man.

HAving curſolarily ſailed over the wide Seas of this Microcroſm, both as to the Soul, and as to the Parts, Temperments, and Functions of the Body, and alſo in reſpect of the difference of the Sexes: We come now to enter upon our laſt Voyage, which when we have finiſht, we ſhall draw in our Lacerated Sails, and enter into our laſt Port and Haven, where we hope to find a ſucceſsful Harbour. Here then it is incumbent on us to deſcribe Man in his ſeveral Ages, for Man being a Creature not conſiſting of one Simple, Homogeneous, and Elementary Matter, but compoſed of ſeveral diſtinct and ſomewhat contrary Principles, and that not in equal proportion, but one alwayes having predominance over

another, it cannot be expected he should always continue in such a State and *Crasis* of Body as he was born with; for the Natural Heat making use of the Primogenial Moisture, cannot but by degrees consume and waste it, it self also by its continual motion and the reluctancy of some Principles hardly combustible, is very much debilitated and diminished; hence the habit of Bodies is render'd fluxible, and Man passes in a short time, as it were out of one *Crasis* and Constitution of Body into another, so that the space in which such like mutations as these are made, is properly termed an Age: Or the true Notion of an Age is that space of Life, in which by the action of the Native Heat upon the Primogenial Moisture, the Constitution of the Body is manifestly changed.

Riverius.

The Division of the Ages of Man.

The Ages of Man (not to divide them according to the Rules of Lawyers and Astrologers, but as is most consistent to the Canons of Physic, and most redounds to the use

uſe of Phyſicians) are Four; *Puericia*, Childhood, *Juventus*, Youth, *Conſiſtens Ætas*, Middle-Age; *Senectus*, Old-Age: Before I particularly handle each of theſe, I will only take notice how Nature takes delight in her Quaternary changes. The Conſtitutions of Men are diſtinguiſht by Four Humours and Temperaments, every Diſeaſe by its Four Parts, the Beginning, the Increment, the State, and the Declenſion. A Year is divided by its four-fold Mutation into ſo many Quarters, and the Ages of Man neither exceed nor fall ſhort of this number.

Puericia, or Child-hood, is from the Birth (or very *Exit* of the *Partus*, from the confining Cubicle of its Mothers Womb, into the ample Pavilion of a capacious World) to the 25th year of its Age. This Age is, for the moſt part, hot and moiſt; it is again diſtributed into Four Parts, The firſt is Infancy, which is extended to the Fourth, or according to others to the Seventh Year. *Child-hood.*

Year. The Second *Pueritia*, strictly so called to the Fourteenth. The Third *Pubertas* to the Eighteenth. The Fourth *Adolescentia*, to the Twenty fifth.

The Character of an Infant.

When the feeble Infant first enters upon the Stage of this World, how exactly doth it act the Part of a bewildred stranger, and imitate some wandring Pilgrim, arrived at some strange and unknown Haven, or one that is banish'd out of a comfortable Region, where he could indulge himself in what most of all delighted him, into some exotic and destitute Countrey; or like a Person very well cloathed, who in an instant, he knows not how, is stript Naked, and so exposed to the Eyes of them whom he never saw before: Thus the Infant, after its exclusion from the Womb, looks on this side and on that side, and in the mid'st of Friends sees no Friend, and then by its Countenance seems to express (or at least it is legible in its Face) what *Aristotle*, when among his Friends, vocally

rocally pronounced, Ὦ φίλοι ἄνθρωποι, *O Friends no Friend!* and because it cannot express its own Sentiments, or manifest its wants in the unknown Language of that strange Land, which it is now by force and compulse reduced to inhabit, it begins to utter its Complaint in its own proper Tongue; and bewails its forlorn Condition with *Ebu's*; and such like deplorable Interjections; but at last finding a necessity of its abiding here, it endeavours to acquaint it self with the Modes and Fashions of the place wherein it is, and to imitate their Customs and Practices; it is pleas'd with Toys and Baubles, and the Rattles of Infancy then arride it; and thus he spends the two former parts of his Age in Folly and Vanity, and truly the third little better; but when he arrives at the Fourth, which is *Adolescentia*, he divests himself not only of the Swadling Cloaths of his Infancy, but also of his Childhood Apparel, and then puts on his Manly Gown; he abjures the Trifles

Trifles he so long retained, and throws away all such silly Buffoonries, and betakes himself to those things that have more Solidity in them.

Youth his Character. The next Age to this is *Youth*, which is Hot, and somewhat Dryer than the Age before described; now the Heat becomes Vigorous and Intense, and precipitates the Blood adapted for Motion, into a more than ordinary Fermentation; it excites the Appetites to pursue the things they desire with a strange kind of Impetuosity, and hurries them to satiate those Cravings and Concupiscible Appetites. Now the Body is most robust, and the vigorous Spirits are almost indefatigable; now Passions are on every side ready to accost the Man, and sometimes the violent Impulses, excited in his Body, make a great impression on his united Mind, and cause such a strange influence upon his Soul, that he finds it very difficult to abstract his Thoughts from those assaulting Representations injected

jected into his extravagant, or too inordinate Phantasie; and thus the Mind doth too often consent to those Peccaminosities, to which Youth is too much addicted: And hence it is very requisite and becoming Youth, for them to use a Bridle to all those unruly Passions, that they fly not out into a career of those (whch they think Heroic) Pranks that their Juvenile Age is so inclinable unto; or so far transcend their Sphere or exceed their Limits, as to indulge themselves in such Hellish Debaucheries, as always inhanse a future shame.

I do not conclude but Passions are lawful, and where they are regular, none can malign them; the forbidden Object, or the undue measure of the Passions themselves, is that which makes them sinful; for such is the Contexture of a Humane Body, and such is the brisk fluctuating Motion of the Sanguine Liquor, that Man is always disposed for one Passion or other. For when an Object obviously

ously presented to the Mind, is apprehended by it to be of a Nature Evil and Noxious, the Soul is thereby presently stimulated to the Passion of Hatred, and thence excited to an ireful Revenge; but when a pleasing and delectable Object is represented, the Soul immediately carresses it: Hence ariseth the Passion of Love, the Body in the mean time finding a great Congruity between it self and the object beloved, complies to embrace it; and thus it is also in respect of the other passions of Youth. This Age continues to the thirty first Year, some will have it last to the Fortieth.

The Consistent Age. The Third is *Ætas Consistens*, which begins where the other ends and continues to the Forty-fifth or Fiftieth Year, it is called the Consistent Age, because those that are in this age do seem to stay, stop, continue, or consist in the same state; for tho the strength in this Age doth begin something to be diminisht, yet this mutation is not evident or perceptible in the habit or actions of the Body. This Age is commonly cold and

and dry, and hence more inclinable to *Melancholy* than any other.

The last is *Senectus* or *Old-age*, which continues to the very extremity of Life; this is subdivided into three parts. *Prima Senectus* from the Fiftieth Year to the Sixtieth, *Ætas Ingravescens* from the Sixtieth Year to the Seventieth, and *Decrepitude* from the Seventieth Year to the end of Life. Now Man having past thro the Spring of his Infancy, the Summer of his Youth, and the Autumn of his Middle-Age, bids *Adieu* to the pleasures of them all, and now hath nothing else to enjoy but the hardship of a sharp and troublesome Winter; now Baldness with a *Canities* of some still adhering locks, is his Heads best Ornament, and while he walks leaning on his Staffe he sensibly experiences the latter part of *Sphynx*'s Riddle. An universal lassitude now seizes the Members of his Body, and a thousand maladies accompany him to his Grave. Old-Age it self is a compound disease attended with numerous direful Symptomes as Cachexies, Imbecillities of the *Old Age.*

the Stomach, dejected Appetite, Obstructions, undue Concoctions of the Blood both as to its *Serum*, *Bile* and *Melancholy*, Constriction of the pores, Costiveness, and a very tardy depositon and exclusion of the *fæces*, Anxieties of the Mind, Nocturnal Inquietudes & Pains in the Head. Now the Nerves are contracted by painful Convulsions, or on the contrary loosened by Paralytic Affects, now the whole tone of the Parts is vitiated, Respiration impeded, and the flesh made arid. He is now perplexed with a continual Catarrh, and the perpetual distillation of Phlegm upon his Lungs, causeth a difficulty of breathing; also by reason of the exsiccation of the *Aspera Arteria* and induration of the Cartilages of the *Larynx* there is caused either a total abolition or at least a depravation or diminution of the voice; in fine all manner of loathsom Diseases are here accumulated, and the whole Gang of cruciating dolors are here in concatinated: For

Febri

Febre caret Sola, circumsilit agmine facto
Morborum omne genus.

There is scarce any Infirmity incident to Man except a Feaver that is not predominant in Old-Age, he is beset and surrounded with a troop of Diseases when he is altogether unable to resist a single one.

Thus Man having lived out this Age also, at last dies and becomes a victime to his last, but Fatal Enemy. Now his Pulse is stopt, and that which Physicians call *Facies Hypocratica* is Excellently Delineated in his Countenance; he now resigns himself up a Captive to Death, and acknowledgeth him the Conquest. *The Conclusion.*

Thus we have in a very short Discourse concluded the whole Description of Man, both as to his Spiritual and Corporeal Part, as to his Constitutions and Sexes, and likewise from Head to Foot, and from his first Conception to his last Dissolution.

FINIS.

ADVERTISEMENT.

WHEREAS *part of the Noble Faculty of* Physic, *consisteth in preserving the Health of Man, when present, as well as restoring it when it is lost and wanting; the Author of the fore-going Discourse hath thought fit to advertise those into whose hand this small* Treatise *may accidentally fall, that, to prevent those Maladies that oft times insensibly accost the Body, he hath prepared most excellent and effectual* Tablets, *of a very pleasant and grateful Taste; two or three of which being dissolv'd in the Mouth, in a Morning, after the manner of* Lozenges, *and*

and fasting an hour or two after, is an excellent Preservative of Health, expelling from the Body the cause of those Distempers, which for want of due and timely care in using such Preservatives, do at last so triumph over the Body, that the Force and Vertue of more Herculean *and powerful* Medicines *can hardly suppress them. They resist all manner of Putrifaction, and are an effectual Antidote against whatsoever Contagion, they preserve the* Lungs *and free the* Stomach *and* Intestines, *from those* Crudities *that so often precipitate the whole Mass of Blood into such violent Ebullitions and undue Fermentations, as either end in* Agues, Feavers, *or some Acute* Paroxisms; *or else either extinguish the Native Heat and Vital Spirit, or cause to be exhaled the Natural & Primogenial Moisture, and so bring upon the whole Body a Combination*

of

of such Chronic Distempers as are very difficult to be cured; which before, by such a safe Medicament as this, might have easily been prevented. They keep the Body soluble, and purge very gently, and prevent several Indispositions that proceed from Costiveness; neither are they altogether Preservative, but likewise Restorative; for they are very good against the Scurvey, Dropsie, Jaundies, Griping of the Guts, Cachexy, *or an ill Habit of* Body, *proceeding from undue* Concoctions; *they open all* Obstructions *of the* Liver, Spleen, *and* Bowels, *and remove* Pains *of the* Heart, Head, *and* Stomach; *in short, they so rectifie, alter, and qualifie the whole Mass of* Blood, *that they exceedingly help* Nature, *in throwing off almost whatsoever* Morbific Matter *oppresseth her, and may safely be used in whatsoever* Maladies *of the like* Nature; *one or two of them may also be dissolved in a Dish of* Coffee *or* Tea,

Tea, *and have the like Effects.*
He hath also invented an approved Tincture, *of a curious purple* Colour, *grateful both to the* Taste *and* Smell, *which hath almost the same* Operation *with the fore-mentioned* Tablets; *especially it is very successfully used, both to prevent and remove that grand* Enemy *of* Mankind, *the* SCURVEY, *with all its direful* Symptoms, *by preserving the* Oeconomy *of* Nature *in the* Humane Body, *in its due* Order *and* Eutaxy, viz. *Causing in the* Blood, *a proportionate* Fermentation, *and reducing it to its regular* Circulation, *opening* Obstructions *in those* Parts *which* Nature *hath destin'd and appointed to secern and throw off the* Excrements *of the* Blood, *and so expelling those useless and unprofitable* Parts *which* Nature *hath no longer deemed fit to remain* Ingredients *of that wholesome* Liquor *and* Balsom *of* Life: *Hereby it takes away* Pains

and

and Aches *in the* Limbs, Puſtle *and* Breakings-out *in any part of the* Body, Pimples *and* Fluſhings *in the* Face, Rheum *in the* Head *and* Eyes, &c. *Three or four Spoonfuls of it being taken* Night *and* Morning, *for a few days together, and for the more ſpeedy, expedite, and effectual profligating the inſulting force of the fore-mentioned* Maladies, *the* Tablets *may be taken with it at the ſame time.*

The *Tablets* are ſeal'd up in little Boxes, the whole Box at Two Shillings, the half Box at one Shilling.

The *Tincture* is alſo ſeal'd up in half pint ſquare Glaſſes, at 2 *s.* 6 *d.* and are both to be ſold at the places hereafter mentioned, *viz.*

Mr. *Foſters* at the *Bible* and *Sun* on *London Bridge*, Bookſeller. Mr. *Flagets* at the *Atlas* in *Cornhil*, Stationer. Mr. *Bates* at the *Three Black Birds* in *Red-croſs-ſtreet*, Tinman. Mr. *Whites* at the *Three Cups* next door to the *Horn-Tavern* in *Fleet-ſtreet*, Cutler. Mr. *Landers* at the Corner of the *Old Bailey* near *New-gate* Tinman. And at the Authors Lodgings next door to the *Dolphin* in *Sighs-lane*, near *Budge-row*.